

**TECHNICAL RESPONSES TO U.S. EPA
COMMENTS ON THE REMEDIAL DESIGN
REVISION 1
DECEMBER 1991**

**ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA**

**Prepared For:
ENVIRONMENTAL CONSERVATION AND
CHEMICAL CORPORATION TRUST**

**Prepared By:
AWD TECHNOLOGIES, INC.
INDIANAPOLIS, INDIANA**

AWD PROJECT NUMBER 2259.850

DECEMBER 1992



PGH-92-BKG-1254

December 21, 1992

Ms. Karen Vendl
Senior Remedial Project Manager
Office of Superfund
U.S. Environmental Protection Agency, Region V
77 West Jackson Boulevard, HSRL-6J
Chicago, Illinois 60604-3590

Subject: ECC Site
Site Preparation and Material Removal Design Package
and Remedial Design Project Plans
Transmittal of Documents
AWD Project Number 2259

Dear Karen:

Please find enclosed three sets of the documents which make up the Site Preparation and Material Removal Phase Design Package, including Drawings, Specifications, and Project Plans, and the Remedial Action Phase Project Plans. A set of this submittal has been sent to Mr. James R. Smith at IDEM under a copy of this letter.

Also enclosed under cover of this letter is a report titled "Technical Responses to U.S. EPA Comments on the Remedial Design, Revision 1, December 1991". This report has been written to assure that the U.S. EPA comments on the Revision 1 ERM submittal have been addressed, and to help reviewers of this revised submittal locate the modifications which address their specific comments. The response to several of the comments has been deferred, as they pertain specifically to the details of the Remedial Action Design. This report also outlines in detail the plans which are pertinent to each phase of the project, and describes how this submittal differs from the previous submittal by ERM.

As we have discussed, the supplemental investigation to be performed beginning January 4, 1993, and the resolution of several other important technical issues, must be accomplished prior to the completion of the Remedial Design Specifications and Drawings. The Remedial Action Phase Project Plans as transmitted to you today, cannot be considered to be at the 90 percent level until the Drawings and Specifications near completion. Work on the resolution of the remaining technical issues continues through the efforts of the Project Team, and through open and frequent communications with the Project Team at the Northside Landfill Site.

AWD Technologies, Inc.

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PGH-92-BKG-1254

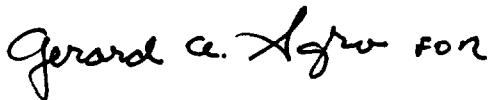
Ms. Karen Vendl

U.S. Environmental Protection Agency, Region V

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As your review progresses, we are at your disposal to help clarify issues as they may arise, or to answer any questions which you may have. I look forward to continuing to work with you in the process of completing this phase of the project.

Sincerely,

A handwritten signature in cursive script that reads "Bradford K. Grow".

Bradford K. Grow

Director of Operations

Enclosures

BKG/slk

cc: Dr. Roy O. Ball, ERM-North Central, Inc.
Mr. Norman W. Bernstein, Arent Fox Kintner Plotkin & Kahn
Mr. Timothy L. Harker, The Harker Firm
Mr. John M. Kyle III, Barnes & Thornburg
Mr. James R. Smith, IDEM

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1.0 INTRODUCTION

In December of 1991, ERM-North Central (ERM) submitted a Final Design Package for the ECC Site to the United States Environmental Protection Agency (U.S. EPA) for review. This package was marked as Revision 1, and was intended to be a 90 percent submittal. This package included Drawings, Specifications, a Health and Safety Plan, Field Sampling Plan, and a Quality Assurance Project Plan.

In February of 1992, the Region V Office of the U.S. EPA forwarded its comments on the Revision 1 Package to the Environmental Conservation and Chemical Corporation Trust (ECC Trust). The purpose of this document is to address all of the comments made by U.S. EPA in their letter of February 21, 1992. In order to accomplish this, it is very important that the reviewer(s) of this document understand several important aspects of how this project is intended to progress. The following sections are intended to clarify how some of the responses were developed, and to provide an understanding of when the specific technical details will be addressed.

1.1 Phases of Work

The Remedial Action (RA) to be undertaken for the ECC Site will be done in two separate and distinct phases. Phase I will be called the "Site Preparation and Material Removal" (SPMR) phase, and Phase II will be called the "Remedial Action" (RA) phase.

The work performed under Phase I will include removal of all material from the site, installation of fencing, grading, development of the support zone facilities, creation of surface water control ditches, and other activities which will make the site ready for Phase II.

The work performed under Phase II will include the construction of the Soil Vapor Extraction (SVE) system, the installation of monitoring wells, the installation of the cap, and all other activities associated with performing the remedial action described in the amended Record of Decision (ROD).

1.2 Soil Vapor Extraction

The primary remedial technology to be employed at this site is soil vapor extraction in conjunction with a cap. The cap will be designed and detailed in the Final Remedial Design. However, the detailed design for the SVE system will be developed by the contractor who successfully bids on the Phase II scope of work. This design will then be submitted to U.S. EPA for final approval prior to the start of work (the so-called "second look"). The specifications provided in the Remedial Design package initially submitted to U.S. EPA will therefore consist of performance specifications.

Many of the comments provided on ERM's Revision 1 submittal were questions regarding the technical details of the SVE system. This report will not attempt to answer those questions, but will address any questions which relate to the performance specifications and/or the points at which the SVE must be tied into the cap design.

1.3 Comments to be Addressed Later

As described above, the implementation of the remedy for this site has been divided into two phases. By the same token the Remedial Design submittals have been separated into two packages. The design package associated with Phase I has been submitted for review to U.S. EPA in conjunction with this report, and is considered to be 90 percent complete. The submittals for the Site Preparation and Material Removal activities include Drawings, Specifications, and several Project Plans.

The design package associated with Phase II will be finalized after completion of the supplemental investigation (which will commence January 4, 1993) and after the resolution of several technical issues including an analysis of water conditions at the Site and water handling issues. Because of this, several of the comments raised by the U.S. EPA cannot yet be addressed at this time. Throughout this document, where this applies, a notation will be made that the specific comment will be addressed when the Phase II Remedial Action design package is completed.

Preliminary project plans associated with Phase II have been submitted along with this report. These plans will be upgraded to the 90 percent level after completion of the Phase II Drawings and Specifications.

1.4 Additional Project Plans

The Remedial Design Package, for both phases of the work, will include Drawings, Specifications, and Project Plans. The Project Plans which were submitted by ERM as Revision 1, and commented on by U.S. EPA in the February 21, 1992 letter, included a Health and Safety Plan (HSP), Field Sampling Plan (FSP), and Quality Assurance Project Plan (QAPP). These plans were originally intended to cover all phases of the project.

In addition to a request for revisions to these documents, U.S. EPA has requested the development, and submittal for review, of a Construction Quality Assurance Plan (CQAP), Air Monitoring Plan (AMP), Site Management Plan (SMP) and Environmental Control and Maintenance Plan (ECMP).

All of the plans associated with this project, with the exception of the Air Monitoring Plan, will be developed for each of the two phases of this project. The AMP will be written to cover both phases. Table 1 is a current list of all of the Project Plans to be submitted to U.S. EPA for review, along with a delineation of the project phases each is associated with.

1.5 Health and Safety Plan Format

The format for the Health and Safety Plan (HSP) has been revised to conform with the Corporate Health and Safety Program of the Remedial Design Engineer. The plan has also been revised to include the work elements which were missing from the previous submittals.

1.6 QAPP and FSP Formats

AWD has retained the original formats provided by ERM for these documents and has made additional modifications. Also, the FSP has been integrated with the QAPP to help facilitate the review process, and for greater ease of use in the field.

1.7 Specific Instructions for using this Report

The U.S. EPA comments of February 21, 1992 have been subdivided into their respective sections and given an alpha-numeric designation as outlined below:

General Comments	G1 - G18
Specification Comments	S1 - S147
Drawing Comments	D1 - D11
Health and Safety Plan Comments	H1 - H19
Field Sampling Plan Comments	F1 - F25
Quality Assurance Project Plan Comments	Q1 - Q24

Each comment has been presented in its original form. The response to that comment has been presented directly beneath the comment. Where it is appropriate, a reference follows the response which indicates a specific section or page number in the new documents where the modification, clarification, or correction may be found.

TABLE 1						
PROJECT PHASES						
	SITE PREP & MATERIAL REMOVAL	REMEDIAL ACTION			LONG-TERM	
		CONSTRUCTION	OPERATION & MAINTENANCE	VERIFICATION SAMPLING	CIVIL MAINTENANCE	GROUNDWATER MONITORING
SITE MANAGEMENT PLAN ¹	•					
SITE MANAGEMENT PLAN ²		•	•	•	•	•
OPERATION & MAINTENANCE PLAN			⊙		⊙	⊙
QUALITY ASSURANCE PROJECT PLAN (and FSP) ¹	•					
QUALITY ASSURANCE PROJECT PLAN (and FSP) ²		•		•		•
HEALTH & SAFETY PLAN ¹	•					
HEALTH & SAFETY PLAN ²		•	⊙	•	⊙	⊙
AIR MONITORING PLAN	•	•				
CONSTRUCTION QUALITY ASSURANCE PLAN ¹	•					
CONSTRUCTION QUALITY ASSURANCE PLAN ²		•				
ENVIRONMENTAL CONTROL AND MAINTENANCE PLAN ¹	•					
ENVIRONMENTAL CONTROL AND MAINTENANCE PLAN ²		•				

- PLANS TO BE SUBMITTED WITH 90%/FINAL DESIGN
- ⊙ PLANS TO BE PREPARED BY REMEDIAL ACTION CONTRACTOR(S) FOR POST-REMEDIAL ACTION PHASE

¹ SITE PREPARATION AND MATERIAL REMOVAL PHASE

² REMEDIAL ACTION PHASE

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U.S. EPA COMMENTS AND AWD RESPONSES
GENERAL COMMENTS

G-1 An example of your unorthodox contracting strategy is found in Section 13000. For examples, this Section provides very specific directions to the Contractor regarding how the trenches are to be constructed (number of trenches, depth, width, slope of bottom, etc.). And yet on page 13000-255, 1.7.C, the Contractor must guarantee "that the Soil Vapor Extraction System achieves the clean-up objectives described in this specification." We believe this approach makes competitive bidding impossible.

AWD RESPONSE The two issues here are the proposed contracting strategy and the approach to finalizing the SVE Design. Specifics of the Contracting strategy will be developed after completion of the Remedial Action Design (Phase II Design). When this is completed, the design will reflect performance specifications for the SVE portion of the project. The specifications will also reflect the points in the design at which the SVE design must tie in, and be compatible with, the Cap design. Detailed instructions to the bidders will be eliminated from the specifications regarding SVE Design.

G-2 Will the warranty provisions outlined in Section 13000 create additional liability questions and/or problems if the soil vapor extraction does not obtain the required cleanup provisions?

AWD RESPONSE Please see response to G-1.

G-3 Who is preparing the Construction Quality Assurance Project Plan (CQAP) for this project? A CQAP is a standard submittal item for these types of projects, and should provide confidence that the remedy will be constructed as specified in the design. How will ERM ensure that the contractor is doing quality control? When will the CQAP be submitted? What will be the chain of events if a design change is necessary during construction?

AWD RESPONSE A Construction Quality Assurance Plan has been submitted for both Phase I and Phase II in conjunction with this report for review by U.S. EPA. This plan outlines the control measures to be implemented for the project and delineates how non-compliance or out of scope items will be handled.

G-4 Who will be responsible for all site safety, the Engineer or the Contractor?

AWD RESPONSE A Health and Safety Plan for Phase I and Phase II has been submitted to U.S. EPA for review. These plans outline the minimum requirements of a site-specific HSP which must be submitted for approval by the Contractor who successfully bids this project. That Contractor will be responsible for all site safety.

G-5 Why were no requirements specified in the documents for U.S. EPA review of the Contractor's plans and specifications? Since the SVE system is a design-build project for a specialty Contractor, the final design cannot be reviewed by U.S. EPA until it is submitted by the Contractor.

AWD RESPONSE The successful bidder will submit an SVE design to U.S. EPA for review and approval prior to the start of any site work. This arrangement has been referred to as the "Second Look", as it provides a detailed review by U.S. EPA of the technical merit of the proposed SVE system to be employed, and it provides an additional review of the compatibility with the cap and other site designs.

G-6 What is the planned relationship between the SVE Contractor and the RCRA Cap Contractor? Will they be the same contractor? This document appears to be written so that one contract will be awarded. Scheduling and cooperation between the two will be important. How will this be controlled if they are not linked?

AWD RESPONSE The SVE and Cap Contractor may, or may not, be the same party. Bidders will have the opportunity to either bid the entire package, bid only the SVE, or bid only the civil portion of the work. At the time that this determination is made, which will be award of the contract(s), the Site Management Plan will be modified to reflect the reporting relationships, and delineate authorities and responsibilities.

G-7 Coordination of Health, Safety and Emergency Action Plans and requirements among all contractors and subcontractors working at the site need to be addressed. Because water sampling activities will occur during operation of the soil vapor extraction system and these activities will, presumably, be conducted by a contractor other than the contractor responsible for the operation of the soil vapor extraction system, the following considerations need to be addressed: Which contractor will be designated as the primary contractor during this period of overlapping activities? Which contractor will have responsibility for health and safety of personnel associated with ongoing activities? Which contractor will

have the responsibility of implementing emergency procedures if required? Coordination of responsibilities for health and safety of personnel and the general public must be addressed.

AWD RESPONSE The Site Management Plan has been written to address all of these concerns. The SMP has been submitted to U.S. EPA for review in conjunction with this report.

G-8 Work to be conducted by others is outlined in Section 01010 yet specifications and reference to the work is included in various Sections of the Bid Documents. Are these specifications included for background information only or are the Sections to be submitted for bid separate from other Documents (Sections)?

AWD RESPONSE This terminology has been deleted.

G-9 Item number 13 on page 2 of Section 01010 indicates that field and laboratory chemical analysis of excavated soils will be included as a principal work item, yet other than vague references (i.e., drum contents would be ascertained; contaminated sub-soil would be removed prior to topsoil placement and seeding; the bid is to include only two rounds of soil samples, on before start-up of the soil vapor extraction and one after cleanup levels are reached; etc.) there is no clear specification for this work item in the Bid Documents.

AWD RESPONSE These items will be addressed in the Remedial Action Phase Specifications. The new specifications summarize all work items to be performed, in which sequence they are to be performed, and in what manner they are to be performed.

G-10 The relationship between the "Contractor's" chemical testing services and that presented in the Field Sampling and Quality Assurance Project Plan is unclear. Is the Contractor to provide laboratories of his choosing or must the contractor utilize the laboratories specified in these documents?

AWD RESPONSE The Contractor may use analytical testing services of their own choosing, provided that the laboratory demonstrates that it will meet or exceed the standards outlined. The Quality Assurance Project Plan outlines both the standards to be applied, and the options the Contractor has with respect to subcontracting of services. The laboratory must be approved by the ECC Trust's Engineer.

G-11 The success of the SVE system depends on the proper flow of air through the contaminated soil. What measures will be taken to prevent short circuiting of air between injection and extraction trenches (e.g., through the trench backfill or materials placed under the RCRA Cap)? The specifications are not clear as to how the material removed from SVE trenches will be placed so as to prevent short-circuiting of injected air. Which contractor will be responsible for spreading and compacting the contaminated material? Is the SVE contractor responsible for designing the trenches? Does Specification 2225 have all the details needed to control the SVE trench construction? Two alternative trench sections are shown in the drawings, but neither appear to be designed in a way that addresses prevention of short-circuiting. What is planned?

AWD RESPONSE This will be addressed in the Remedial Action Phase Specifications.

G-12 What measures will be taken to show that the soil vapor extraction system is performing/operating as planned? Specifically, what steps will be taken to show that air is flowing uniformly through the contaminated zone rather than through a few preferential flow paths?

AWD RESPONSE This will be addressed in the Remedial Action Phase Specifications.

G-13 Two rounds of confirmation testing with soil samples taken from twenty locations on the site beneath the RCRA cap are described. How will the cap be repaired after the samples have been taken? Who will be responsible? Will the geomembrane installer be required to return to the site to perform the work? What will be the schedule for this work?

AWD RESPONSE The responsibility for this has been generally outlined in the Field Sampling Plan, however, the details of this procedure will be developed in the Remedial Action Phase Specifications.

G-14 How will the groundwater that collects in the SVE trenches be removed and disposed of? It is unclear how the design will collect groundwater from trenches as required in the Consent Decree. Where will it go after being removed?

AWD RESPONSE The water management issues associated with this project are being addressed in several ways. Primarily, a supplemental investigation will be performed in January of 1993 to help quantify the water expected. Secondly, the Remedial Action Phase Specifications will outline water disposal details.

G-15 There are several instances of ambiguous language contained in the design documents. There are many instances where the specifications say that an activity "will" be done, certain materials "will" be provided, or a certain part of the construction "will" perform in a specific way. In these cases it is unclear whether the Contractor is required to do the noted activity or whether the Contractor can count on other agents of the PRPs' to do the activity. Using the word "will" does not necessarily direct the Contractor to take responsibility for seeing that the finished product works as necessary. This type of writing can cause problems that impact the ability of the finished product to perform as required. An example of this ambiguity is in the description of the trailers in Section 1590. Who is to provide the decontamination trailer described in paragraph 3.11? The other trailers appear to be provided by ERM, but this one is not specified.

AWD RESPONSE Ambiguous language has been removed from the AWD SPMR Contract Documents. All trailers will be provided by the Contractor as described in AWD SPMR Technical Specifications, Section 01500 - Temporary Facilities.

G-16 Will the inconsistencies and mistakes in drawings, cross-references, and spelling be fixed before bidding? There are several cross-references addressing construction that do not make sense. Of particular importance is the thickness of sand over the geomembrane. The specifications say that the first lift of material placed over the geomembrane must be a minimum of 12 inches thick. However, the drawings show a 6 inch thickness for that layer. Which is correct? If a 6 inch layer is planned, how will it be constructed without damaging the geomembrane?

AWD RESPONSE Every attempt possible has been made to eliminate errors and inconsistencies in the Plans, Drawings and Specifications. The specific details of the cap, drainage layer and appurtenances have not yet been finalized.

G-17 How does this design fit with the potential design for the Northside Sanitary Landfill? What will be done to ensure compatibility between the two projects? If remediation activities on ECC will be occurring at the same time as remediation activities on NSL, coordination of health, safety and emergency considerations needs to be addressed, especially where activities of one site may affect the other site.

AWD RESPONSE It is currently estimated that the NSL Design is at approximately 30 percent. A good working relationship between the NSL Design Engineers and AWD has been established and all supplemental investigation data and available design information is currently being shared by ECC and NSL. The primary areas where compatibility is essential are the unnamed ditch, haul and access roads, the soil borrow area, and the surface water monitoring programs. As the design is finalized, focused attention will be given to these areas.

G-18 Where is the Operations and Maintenance Plan for this site? How will the cap be maintained so that the integrity of the geomembrane is protected?

AWD RESPONSE The Operations and Maintenance Plans will be the responsibility of the contractor(s) awarded this work. By reviewing Table 1 it is apparent that several plans will be required. These plans will be integrated with, and conform with, existing project plans.

**U.S. EPA COMMENTS AND AWD RESPONSES
SPECIFICATIONS**

S1	The Consent Decree is not an "Administrative Order on Consent". ERM 01010 (1.3.A)
AWD RESPONSE	Legal terminology has not been included in the AWD SPMR Technical Specifications, but the U.S. EPA comment has been considered.
AWD REFERENCE	Not applicable
S2	The wording of this statement implies that a third temporary facility will be provided by the Contractor (i.e.,... "except for the decontamination pad, tank truck containment area, and _____(sic) which will be by Contractor.") What other temporary facility will the Contractor have to provide? ERM 01010 (1.5.A)
AWD RESPONSE	The Contractor shall provide all temporary facilities
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01500 - Temporary Facilities
S3	Paragraph 1.3.D.15 states that the Contractor is to collect, treat, and dispose of decontamination water, whereas Paragraph 1.5.D states that the Engineer will transport and dispose of water collected in the decontamination water storage tank trucks. What will be done? Paragraph 1.5.C says the engineer will be responsible for collection and analysis of all water samples. The FSP says a separate Contractor will do this. Which is correct? ERM 01010 (1.3.D.15)(1.5.C., D.)
AWD RESPONSE	The Contractor shall be responsible for collection and disposal of the decontamination water and all associated sampling and analyses as required by the approved offsite hazardous liquids disposal facility.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02900, Part 3.01 and Field Sampling Plan, Section 4.3.

S4	Add the ROD Amendment of June 7, 1991. ERM 01012 (1.2)
AWD RESPONSE	Legal terminology has not been included in the AWD SPMR Technical Specifications, but the U.S. EPA comment has been considered.
AWD REFERENCE	Not applicable
S5	PRP Contractors were also involved in the removal discussed in this paragraph. ERM 01012 (1.3.C)
AWD RESPONSE	PRP Contractors are mentioned in the discussion of previous removal actions.
AWD REFERENCE	AWD SPMR Technical Specification, Section 01012, Part 1.02.B.2
S6	Include Figure 4-8 from the RI. ERM 01012 (1.7.A)
AWD RESPONSE	Figure 4-8 from the RI is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S7	"Note" should refer to RI, not RE. ERM 01012 (Table 6)
AWD RESPONSE	This table is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S8A	Throughout the various phases of the work, there are references to removal and replacing the existing fence. Why is this referred to so often? ERM 01015 (1.2.C)
AWD RESPONSE (S8A)	The removal of the existing fence is covered under Section 02088 - Existing Fencing of the AWD SPMR Technical Specifications.

AWD REFERENCE (S8A)	AWD SPMR Technical Specifications, Section 02088 - Existing Fencing
S8B	Also, grouting and sealing of existing monitoring wells (except those designated to remain for continued use) is not included in the Sequence of Work, or in Sections Onsite Demolition (02060) or Offsite Clearing (02110). When will this be completed and are specifications for this work required?
AWD RESPONSE (S8B)	Grouting and sealing of existing monitoring wells is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE (S8B)	Not applicable
S9	This paragraph specifies that the Contractor shall perform surveys to determine quantities of all unit cost work whose payment is specified to be based on in-place volumes, areas, or lengths. However, Specification 01010, Paragraph 1.4 calls for the contract to be performed under a fixed price, lump sum type of contract. What will be done? ERM 01050 (3.4.A)
AWD RESPONSE	Surveying shall be performed if needed to determine quantities for unit price payment.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01050, Part 3.04A.
S10	U.S. EPA and IDEM must be notified of the initial preconstruction meeting, as well as all other meetings relating to construction activities at the site. In addition, U.S. EPA's Contractor may attend these meetings, at U.S. EPA's request. ERM 01210 (1.4)
AWD RESPONSE	U.S. EPA and IDEM have been included in both the Pre-Construction and Pre-Work Conferences and all other meetings related to construction activities at the site.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01210, Parts 1.02.A and 1.03.A and Section 01220, Part 1.01.A

S11	Delete "as appropriate". ERM 01220 (1.4.E.6)
AWD RESPONSE	The deletion has been made.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01220, Part 1.01.A
S12	The monthly progress reports that are required to be submitted to U.S. EPA and IDEM per the Consent Decree must discuss more than just the Contractor's progress (1.7). The progress reports to U.S. EPA and IDEM must discuss all activities related to the site, including those activities of the PRPs as well as the Engineer. ERM 01310 (1.7, 1.8)
AWD RESPONSE	U.S. EPA and IDEM will receive monthly progress reports which discuss all activities related to the site, but it does not need to be included as part of the SPMR Technical Specifications.
AWD REFERENCE	Not applicable
S13	What RCRA waste materials are to be disposed of offsite? ERM 01370 (1.7.A)
AWD RESPONSE	RCRA waste materials will be disposed of in accordance with RCRA. The waste materials will consist of building demolition debris that fails TCLP analyses (AWD SPMR Technical Specifications, Section 02083, Part 3.02.D.1), PPE/miscellaneous solid waste found in the drums (AWD SPMR Technical Specifications, Section 02082, Part 3.08.A.2.a), purge and decontamination waters found in the drums (AWD SPMR Technical Specifications, Section 02082, Part 3.07.A.2.a), and decontamination water and personal protective equipment wastes generated during work activities (AWD SPMR Technical Specifications, Section 02080, Parts 3.01 and 3.02), and the boiler (AWD SPMR Technical Specifications, Section 02089).

AWD REFERENCE	AWD SPMR Technical Specifications, Section 02083, Part 3.02.D.1. AWD SPMR Technical Specifications, Section 02082, Part 3.08.A.2.a. AWD SPMR Technical Specifications, Section 02082, Part 3.07.A.2.a AWD SPMR Technical Specifications, Section 02080, Parts 3.01 and 3.02. AWD SPMR Technical Specifications, Section 02089 - Boiler
S14	This section should also specify action levels for explosive atmosphere and require real-time monitoring with a combustible gas meter in addition to oxygen meter and volatile organic detector. ERM 01380 (1.6.G.6)
AWD RESPONSE	Action levels and monitoring instrumentation are addressed in the AWD SPMR Health and Safety Plan, Section 8.0, Table 8-1, titled "Monitoring Instrumentation Action Levels".
AWD REFERENCE	AWD SPMR Health and Safety Plan, Section 8.0, Table 8-1
S15	Groundwater protection is not included here. Care must also be exercised to prevent pollution or degradation of groundwater during monitoring well grouting and sealing, drilling and development of monitoring wells and piezometer, and sampling of monitoring wells and piezometers. ERM 01392 (3.3)
AWD RESPONSE	Groundwater protection is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S16	Delete the second sentence. ERM 01392 (3.6.A)
AWD RESPONSE	This sentence has been deleted.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01395, Part 3.02.B

S17	The Contractor Quality Control Plan must be submitted to U.S. EPA and IDEM for review. ERM 01400 (1.4.A.4)
AWD RESPONSE	The Contractor Quality Control Plan will be submitted for review and approval by U.S. EPA and IDEM in addition to the ECC Trust's Engineer.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01400, Parts 1.04.A.1 and 1.04.A.4
S18	The requirements for a passing sample are not consistent with the requirements discussed in Specifications 02211: Rough Grading, and 02223: Backfilling. Why? ERM 01400 (1.4.D.5(b))
AWD RESPONSE	The sampling procedures for the cap are not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S19	In the 5th line, change from "at the request of" to "to". ERM 01410 (1.2.F)
AWD RESPONSE	This change has been made.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01410, Part 1.02.E
S20	Please submit the documents described in this section to U.S. EPA and IDEM also. ERM 01410 (1.4)
AWD RESPONSE	All submittals shall be provided to the ECC Trust's Engineer. The Engineer will in turn provide copies of all submittals to the U.S. EPA and IDEM for review and approval.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01300, Part 1.01

S21A	Paragraph E refers to an "approved CQC", approved by whom? ERM 01410 (1.5.E.)
AWD RESPONSE (S21A)	The ECC Trust's Engineer will issue approval of the CQC Plan contingent upon U.S. EPA and IDEM review (AWD SPMR Technical Specifications, Section 01300, Part 1.01.B and Section 01400, Part 1.04.A.4).
AWD REFERENCE (S21A)	AWD SPMR Technical Specifications, Section 01300, Part 1.01.B AWD SPMR Technical Specifications, Section 01400, Part 1.04.A.4.
S21B	In the 6th line of Paragraph G, delete "they believe to be in the best interests of the Enviro-Chem Trustees and the public," and insert "that have been selected in the approved QAPP". ERM 01410 (1.5.G.)
AWD RESPONSE (S21B)	The change has been made (AWD SPMR Technical Specifications, Section 01410, Part 1.04.G).
AWD REFERENCE (S21B)	AWD SPMR Technical Specifications, Section 01410, Part 1.04.G
S22	Who approves the CQC Plan? ERM 01410 (1.9.A)
AWD RESPONSE	The ECC Trust's Engineer will issue approval of the CQC Plan contingent upon U.S. EPA and IDEM review and approval.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01300, Part 1.01.B AWD SPMR Technical Specifications, Section 01400, Part 1.04.A.4.
S23	It appears that these are the "permanent" utilities for the operations of the SVE system. If so, what is meant by the term "temporary"? ERM 01510 (All)
AWD RESPONSE	The term "temporary utilities" is no longer used. It is now called "utilities."
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01510 - Utilities

S24	<p>The scope of work caused some confusion for the reviewers. What is planned for the Contractor's scope of work? Section 3.3 is typical of our confusion. A. through C. say the "Engineer shall"; D. and K. say the "Engineer will"; F. and G. don't identify who's to do the work. Please clarify, and use consistent language throughout all the documents.</p> <p>ERM 01510 (3)</p>
AWD RESPONSE	<p>The Contractor is to provide all labor and equipment required to complete the SPMR phase of the work. Consistent language has been used throughout the Specifications, Drawings, and Plans.</p>
AWD REFERENCE	<p>Several places throughout Contract Documents</p>
S25	<p>Who is responsible for providing the tank trucks used to store and transport decontamination water?</p> <p>ERM 01510 (3.4.A)</p>
AWD RESPONSE	<p>The Contractor shall provide two onsite hazardous wastewater storage tanker trucks.</p>
AWD REFERENCE	<p>AWD SPMR Technical Specifications, Section 02095, Part 3.04</p>
S26A	<p>Who makes sure the Security Guard coordinates with local authorities to map out Contingency Plans?</p> <p>ERM 01540 (3.5)</p>
AWD RESPONSE (S26A)	<p>The Security Guard is not responsible for coordination with local authorities to map out Contingency Plans. Instead, the Site Safety Officer is responsible for contingency planning.</p>
AWD REFERENCE (S26A)	<p>AWD SPMR Technical Specifications, Section 01390, Part 1.20</p>
S26B	<p>Will these activities also be coordinated with the Health and Safety and Emergency Response Plans and personnel assigned to implement this plan?</p>
AWD RESPONSE (S26B)	<p>The activities will be coordinated as per the requirements of the AWD SPMR Health and Safety Plan.</p>
AWD REFERENCE (S26B)	<p>AWD SPMR Health and Safety Plan</p>

S26C	Are the "Contingency Plans" mentioned here the same as the "evacuation plan" mentioned on page 9-7 of the Health and Safety Plan?
AWD RESPONSE (S26C)	This comment no longer applies because AWD has rewritten the Health and Safety Plan.
AWD REFERENCE (S26C)	AWD SPMR Health and Safety Plan
S27	This Section discusses a "Site Entrance Road"; "site access roads"; "parking area"; and "parking areas". Are these all the same? Please identify these more clearly, referring to Drawings, and use consistent language. ERM 01550 (All)
AWD RESPONSE	AWD SPMR Drawing C-2 delineates the location of the access road, equipment laydown area, and the Contractor parking area.
AWD REFERENCE	AWD SPMR Drawing C-2
S28	Does "parking areas used on a bi-weekly basis" mean they are only used bi-weekly, or that they are to be impacted bi-weekly? ERM (01550) (3.3.A)
AWD RESPONSE	This comment no longer applies because it is not included in the AWD SPMR Technical Specifications.
AWD REFERENCE	Not applicable
S29	Much more detail is needed in this section for us to determine that the temporary controls to be used will be adequate. We need to see an Erosion Control Plan, an Air Quality Control Plan to prevent offsite emissions, etc. We need to see what conditions will trigger each of these plans. More details follow. ERM 01560 (All)
AWD RESPONSE	AWD has prepared an Environmental Control and Maintenance Plan and an Air Monitoring Plan to prevent offsite releases.
AWD REFERENCE	AWD SPMR Environmental Control and Maintenance Plan AWD Air Monitoring Plan

S30	Who's to decide what's "judicious", "frequent" and if "corrective actions" are necessary? What are these "corrective actions"? ERM 01560 (3.1)
AWD RESPONSE	This comment no longer applies because this section is not included in the AWD SPMR Technical Specifications.
AWD REFERENCE	Not applicable
S31A	We need to have measures in place to prevent offsite releases of air, water, and soil. What are the appropriate regulations governing such releases? ERM 01560 (3.2)
AWD RESPONSE (S31A)	AWD has prepared an Environmental Control and Maintenance Plan and an Air Monitoring Plan to prevent offsite releases.
AWD REFERENCE (S31A)	AWD SPMR Environmental Control and Maintenance Plan AWD Air Monitoring Plan
S31B	Will the Contractor's Safety, Health, and Emergency Response Plan be submitted to U.S. EPA and IDEM?
AWD RESPONSE (S31B)	The Contractor Health and Safety Plan will be submitted to U.S. EPA and IDEM for review and approval.
AWD REFERENCE (S31B)	AWD SPMR Technical Specifications, Section 01300, Part 1.01
S31C	What are "construction sequences and flow patterns"? How will these prevent "pollution of offsite areas"?
AWD RESPONSE (S31C)	Traffic control is addressed in Section 4.5 of the AWD SPMR Site Management Plan. Adhering to the traffic control patterns will keep vehicles on properly installed and maintained aggregate surfaces.
AWD REFERENCE (S31C)	AWD SPMR Site Management Plan

S32	Who's to decide if repair of dikes, etc. is necessary, and what criteria will they use? ERM 01560 (3.3.B)
AWD RESPONSE	The ECC Trust's Engineer will make these decisions based on the criteria contained in the AWD SPMR Environmental Control and Maintenance Plan.
AWD REFERENCE	AWD SPMR Environmental Control and Maintenance Plan
S33	Who is the "Health and Safety Officer"? The Health and Safety Plan identifies two other individuals - a "Project Safety Officer" and an "Onsite Project Safety Officer". Are these people all the same? Use consistent terminology. ERM 01560 (3.6)
AWD RESPONSE	The Contractor shall provide a Project Health and Safety Officer (HSO) who is responsible for developing and implementing the CHSP, conducting initial onsite training, and providing onsite consultation to ensure the CHSP is fully implemented. The Contractor shall also provide a Health and Safety Site Officer (SSO) who shall be assigned to the project on a full-time basis and be responsible for the day-to-day administration and implementation of the CHSP.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01390, Part 1.02C. and 1.02.D.
S34	The duties of the Contractor and Engineer are unclear. If the Engineer is providing all the trailers, why is this spelled out in so much detail? ERM 01560 (All)
AWD RESPONSE	The Contractor is supplying all trailers.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01500 - Temporary Facilities

S35	What are "approved shop drawings"? Will these be submitted to U.S. EPA and IDEM? ERM 01720 (1.3.A.11)
AWD RESPONSE	No shop drawings are required during the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S36	What are "blue line drawings"? Will these be submitted to U.S. EPA and IDEM? ERM 01720 (1.4.A)
AWD RESPONSE	No shop drawings are required during the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S37	Is demolition to be subcontracted by the Contractor, or is this a separate contract? ERM 02060 (All)
AWD RESPONSE	The SPMR phase of the work includes site preparation and material removal activities as outlined in the AWD SPMR Contract Documents. The Contractor who receives the Contract for this work may subcontract work as allowed by the ECC Trust.
AWD REFERENCE	AWD SPMR Contract Documents
S38	What are the designated structures? Do they include the fence and sump indicated in Drawing No. 91111-2-03? ERM 02060 (1.1.C)
AWD RESPONSE	There are two structures onsite to be demolished. These include the A-Frame House and the Process Building as shown on AWD SPMR Drawing C-4. The existing fence will also be removed as shown on AWD SPMR Drawing C-2. The sump will remain and is to be handled during the Phase II work.

AWD REFERENCE	AWD SPMR Technical Specifications, Section 02083, Part 1.01 AWD SPMR Technical Specifications, Section 02088, Part 1.01 AWD SPMR Drawings C-2 and C-4
S39	What is included in the term "identified utilities"? ERM 02060 (1.1.D)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S40	Demolition of concrete slabs-on-grade is not indicated on Drawing No. 91111-2-03. What slabs are to be demolished? ERM 02060 (1.1.E)
AWD RESPONSE	There will be no demolition of concrete slabs during the SPMR phase of the work. The fate of the concrete slab will be addressed in Phase II.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02083, Part 3.02.F
S41	What types of subsurface obstructions are anticipated? ERM 02060 (1.4B)
AWD RESPONSE	Utility lines are the most common subsurface obstruction encountered.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01010, Part 1.02.B
S42	The decontamination procedure listed here is not consistent with the requirements of Specification 02227, Paragraph 3.3.A. What will be the definition of clean? Who will determine when an adequate level of decontamination has been achieved? Also, why are these two Paragraphs 1.8.C listed? ERM 02060 (1.8.C.2)

AWD RESPONSE	Decontamination procedures for scrap/salvage material are outlined in the AWD SPMR Technical Specifications. PID readings will determine if something is clean. The Engineer will determine by use of the PID instrument when decontamination is adequate.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02081, Part 3.02 AWD SPMR Technical Specifications, Section 02083, Part 3.02.E
S43	Should this title be PRODUCTS, not EXECUTION? ERM 02060 (2)
AWD RESPONSE	AWD SPMR Technical Specifications use the CSI Format with Part 2 being Products throughout.
AWD REFERENCE	Not applicable
S44	What are "existing landscaping materials, appurtenances, structures that are not to be demolished"? ERM 02060 (3.1.B)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S45	What is included in the term "designated utilities"? Are they the same as the utilities in Paragraph 1.1.D? ERM 02060 (3.3.A)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications.
AWD REFERENCE	Not applicable
S46	Some of the trees and brush to be removed are located within the remediation boundary (ref. Drawing No. 91111-2-03). What will be done with this material? ERM 02110 (1.1.C)

AWD RESPONSE	Site clearing material shall be removed to grade level and disposed offsite at an authorized facility such as an approved IDEM permitted municipal solid waste landfill.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02115 - Site Clearing
S47	What utilities are to remain? ERM 02110 (3.2.A)
AWD RESPONSE	All utilities associated with the SPMR phase of the work are to be installed in such a way that they may be disconnected upon completion but easily reconnected for future use.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01510, Part 1.01.B
S48	What are the "existing structures" that are to be protected? ERM 02110 (3.2.C)
AWD RESPONSE	The structures to be protected are benchmarks, existing monitoring wells, and existing piezometers.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02115, Part 3.01.C
S49	What rock is to be removed? ERM 02110 (3.4.A)
AWD RESPONSE	No rock is anticipated to be removed.
AWD REFERENCE	Not applicable
S50	Which Contractor will be required to provide quality assurance for the existing well - the Contractor responsible for sampling water or the Contractor responsible for drilling and developing the wells? Is drilling an appropriate method for cleaning out the existing well? ERM 02130 (1.2)
AWD RESPONSE	Wells are not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable

S51	To whom will the Contractor provide this evidence? ERM 02132 (1.3.A)
AWD RESPONSE	Wells are not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S52	Will U.S. EPA and IDEM receive the Contractor's detailed procedures? ERM 02132 (1.3.B)
AWD RESPONSE	Wells are not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S53	What will be done to confirm that the subsoil is "acceptable"? Who will determine if these procedures are adequate and if sufficient quantities are available from the selected source? ERM 02205 (1.4.C)
AWD RESPONSE	Suitable fill will, with the approval of the Site Owners and NSL Trustees, be taken from the NSL borrow area and approved by the Engineer.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02224, Parts 1.01 and 1.02
S54	The ASTM standards referenced are for in-place material and are not appropriate for source quality control. ERM 02205 (2.2.B)
AWD RESPONSE	There will be no laboratory testing of soil materials during the SPMR phase of the work. Testing for Phase II work will be specified in the Phase II Contract Documents.
AWD REFERENCE	Not applicable

S55	What utilities are to remain? ERM 02211 (1.4.B, 3.2.C, 3.2.B)
AWD RESPONSE	All utilities associated with the SPMR phase of the work are to be installed in such a way that they may be disconnected upon completion but easily reconnected for future use.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01510, Part 1.01.B
S56	How are the optimum moisture content and required compaction density determined? These items were not addressed in Specification 02205. ERM 02211 (3.4.C)
AWD RESPONSE	Compaction shall conform to the IDOH Standard Specifications, 1988.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02200, Part 3.11
S57	What building is referred to here? ERM 02211 (3.4.D)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S58	The referenced specification does not address field inspection. Why not? ERM 02211 (3.6.A)
AWD RESPONSE	Field inspection shall be performed as outlined in the Contractor Quality Control Plan.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01400, Part 1.04.D
S59	What test procedure is to be used to determine maximum density so that "95 percent of maximum density" can be identified? ERM 02211 (3.7)

AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S60	Why does topsoil need to be compacted? How does this relate to the topsoil placement discussed in Section 02235: Landscape Grading? ERM 02211 (3.7.B)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S61	What utilities are to remain? ERM 02222 (3.1.B)
AWD RESPONSE	All utilities associated with the SPMR phase of the work are to be installed in such a way that they may be disconnected upon completion but easily reconnected for future use.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01510, Part 1.01.B
S62	What basis does the Contractor have to determine what subsurface conditions are unexpected? ERM 02222 (3.2.F)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S63	On what basis will the Engineer determine where to stockpile the excavated material? ERM 02222 (3.2.H)
AWD RESPONSE	The Engineer will specify stockpile locations so as to minimize interference with construction operations.

AWD REFERENCE	AWD SPMR Technical Specifications, Section 02200, Part 3.02.F
S64	What "roadway" is referred to here - the "Site Entrance Road", or one of the "Site Access Roads"? Please use consistent terminology. ERM 02223 (1.1.D)
AWD RESPONSE	AWD SPMR Contract Documents use consistent terminology.
AWD REFERENCE	Not applicable
S65	Is the "Subsoil Fill" part of the Subtitle C cap? ERM 02223 (3.3.C)
AWD RESPONSE	The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S66	Who will decide if the selected placement method "does not disturb or damage other work"? ERM 02223 (3.3.D)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S67	How are the optimum moisture content and required compaction density determined? ERM 02223 (3.3.E)
AWD RESPONSE	Compaction shall conform to the IDOH Standard Specifications, 1988.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02200, Part 3.11
S68	To where will the surplus backfill materials be removed? ERM 02223 (3.3.G)
AWD RESPONSE	Surplus backfill material, if any, will be returned to the NSL borrow area, or alternate borrow source.

AWD REFERENCE	AWD SPMR Technical Specifications, Section 02224, Part 2.01.D
S69	The referenced specification does not address field testing. Why? ERM 02223 (3.5.A)
AWD RESPONSE	Field inspection shall be performed as outlined in the Contractor Quality Control Plan.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01400, Part 1.04.D
S70	How is the compaction density determined? ERM 02223 (3.7)
AWD RESPONSE	Compaction shall conform to the IDOH Standard Specifications, 1988.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02200, Part 3.11
S71	Subsoil SI is not defined in Specification 02205: Soil Materials as referenced. Why not? ERM 02223 (3.7.A)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S72	What is "Fill for Berming"? Can this be indicated on the plans? ERM 02223 (3.7.B)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable

S73	Where is "utility bedding" discussed in the Specifications? ERM 02225 (1.1.C)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S74	What utilities are to remain? ERM 02225 (3.1.C)
AWD RESPONSE	All utilities associated with the SPMR phase of the work are to be installed in such a way that they may be disconnected upon completion but easily reconnected for future use.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01510, Part 1.01.B
S75	Who decides where under the RCRA cap to place the excavated materials? ERM 02225 (3.2.D)
AWD RESPONSE	The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S76	Who decides what "maximum time" is? ERM 02225 (3.3.B)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S77	How are the optimum moisture content and required compaction density determined? ERM 02225 (3.3.D)
AWD RESPONSE	Compaction shall conform to the IDOH Standard Specifications, 1988.

AWD REFERENCE	AWD SPMR Technical Specifications, Section 02200, Part 3.11
S78	What is meant by the phrase "compacted to 95 percent"? ERM 02225 (3.7)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S79	The depth of lifts specified here conflict with the depth of lifts specified in Specification 02223: Backfilling. What is the correct thickness? ERM 02225 (3.7)
AWD RESPONSE	Depth of lifts for backfilling shall not exceed 6 inches in thickness beneath structures or 12 inches in nonstructural areas.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02200, Part 3.11.C
S80	Paragraph 1.1.A suggests that the only waste handling covered by this Specification is handling of wastewater, whereas Paragraph 1.5 presents a list of other types of wastes. What wastes will be handled? ERM 02227 (1.1.A, 1.5)
AWD RESPONSE	Hazardous solids and liquids, nonhazardous solids, and scrap/salvage wastes shall be handled during the SPMR phase of the work.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02900 - Offsite Transportation and Disposal
S81	Why are primary and secondary nonhazardous waste landfills necessary? What materials will go there? ERM 02227 (1.4.A)
AWD RESPONSE	Primary and secondary landfills are needed to promote competitive bidding with at least two landfills bidding the work. Also, if the primary becomes materially non-complaint there is an alternate being the secondary landfill.

AWD REFERENCE

AWD SPMR Technical Specifications, Section 02900,
Part 1.02.B

S82

What materials will go to "offsite RCRA and nonhazardous
waste landfills"?
ERM 02227 (1.6.A.4)

AWD RESPONSE

RCRA waste materials will be disposed of in accordance with
RCRA. The waste materials will consist of building demolition
debris that fails TCLP analyses (AWD SPMR Technical
Specifications, Section 02083, Part 3.02.D.1),
PPE/miscellaneous solid waste found in the drums (AWD
SPMR Technical Specifications, Section 02082,
Part 3.08.A.2.a), purge and decontamination waters found in
the drums (AWD SPMR Technical Specifications,
Section 02082, Part 3.07.A.2.a), and decontamination water
and personal protective equipment wastes generated during
work activities (AWD SPMR Technical Specifications,
Section 02080, Parts 3.01 and 3.02), and the boiler (AWD
SPMR Technical Specifications, Section 02089).

Nonhazardous waste will include such things as empty drums,
non-metallic building materials, miscellaneous debris, SVE pilot
study waste, other site debris, and existing fencing.

AWD REFERENCE

AWD SPMR Technical Specifications, Section 02083,
Part 3.02.D.1.

AWD SPMR Technical Specifications, Section 02082,
Part 3.08.A.2.a.

AWD SPMR Technical Specifications, Section 02082,
Part 3.07.A.2.a

AWD SPMR Technical Specifications, Section 02080,
Parts 3.01 and 3.02.

AWD SPMR Technical Specifications, Section 02089 - Boiler

AWD SPMR Technical Specifications, Section 02082,
Part 3.05

AWD SPMR Technical Specifications, Section 02083,
Part 3.02.D

AWD SPMR Technical Specifications, Section 02084,
Part 3.01.A

AWD SPMR Technical Specifications, Section 02085,
Part 3.01.B

AWD SPMR Technical Specifications, Section 02086,
Part 3.01.A
AWD SPMR Technical Specifications, Section 02088,
Part 3.01.E

S83 What criteria will be used to determine which manner
"minimizes wind and water erosion, leachate generation from
rainfall and spillage"?
ERM 02227 (3.1.C)

AWD RESPONSE AWD has prepared a SPMR Environmental Control and
Maintenance Plan that outlines such criteria.

AWD REFERENCE AWD SPMR ECMP

S84 Will the Contractor be required to test material for
contamination/effective decontamination prior to transport and
disposal in a nonhazardous waste facility?
ERM 02227 (3.3, 3.4)

AWD RESPONSE No, the material will be placed directly into a tarped rolloff for
offsite transportation.

AWD REFERENCE AWD SPMR Technical Specifications; Section 02095, Part 3.03

S85 What gravel currently exists onsite? Will it be cleaned before
its reuse in the SVE system construction?
ERM 02227 (3.7)

AWD RESPONSE SVE system construction is not included with the SPMR phase
of the work. This comment will be addressed during the
Phase II work.

AWD REFERENCE Not applicable

S86 Steam cleaning will not remove contaminants from wood and
other porous material contained in the building demolition
scrap.
ERM 02227 (3.8)

AWD RESPONSE Porous material is not being steam cleaned. This material will
be placed in a tarped rolloff for offsite disposal.

AWD REFERENCE	AWD SPMR Technical Specifications, Section 02083, Part 3.02.D
S87	Who "approves" the RCRA hazardous waste facility and the nonhazardous waste landfill? ERM 02227 (3.9.A.2)
AWD RESPONSE	The Engineer will approved these facilities, but they are required to be permitted by the U.S. EPA and IDEM, respectively.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02900, Parts 1.02.A and 1.02.B
S88	Who determines what is an "unacceptable moisture constant level"? What criteria are used? ERM 02227 (3.9.A)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable.
S89	Steam cleaning will not remove contaminants from concrete fence post foundations. ERM 02227 (3.10)
AWD RESPONSE	Concrete post foundations are only being removed outside the remediation boundary, and therefore, they do not need decontaminated.
AWD REFERENCE	AWD Technical Specifications, Section 02088, Part 3.01.C
S90	Will we see the "Contractor's CQC Plan"? ERM 02227 (3.12.A.1)
AWD RESPONSE	The Contractor Quality Control Plan will be submitted for review and approval by U.S. EPA and IDEM in addition to the ECC Trust's Engineer.
AWD REFERENCE	AWD SPMR Technical Specifications, Section 01400, Parts 1.04.A.1 and 1.04.A.4

S91	Mention here that all procedures used will be in accordance with the U.S. EPA-approved QAPP. ERM 02227 (3.12.A.3)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S92	The material names listed in this Specification do not always match the notations shown on the Drawings. Why? What is float stone? It is not specified. ERM 02230 (All)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S93	Have arrangements been made to obtain the silty clay till from Northside Sanitary Landfill? Has the native soil listed in Option 1 been shown to meet the criteria for clay fill? Is the Contractor support to assume that it is acceptable for use? ERM 02230 (2.1.A)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S94	Why are common fill materials defined here? Are the requirements of Specification 02205 inappropriate or inadequate? ERM 02230 (2.2)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable

S95 Why does fill for general grading have to meet the same requirements as the clay cap? Why are the requirements for fill material (Paragraph 2.1. C or Specification 02205) not acceptable?
ERM 02230 (2.2.A)

AWD RESPONSE Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S96 What do Type I, Grade A refer to?
ERM 02230 (2.5.D)

AWD RESPONSE Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S97 How are soft or spongy areas to be identified? What will be done with this material? Will it be sampled to see if it contains hazardous substances?
ERM 02230 (3.1.A.4)

AWD RESPONSE Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S98 Field inspections is not addressed in Specification 01410 as referenced. Why?
ERM 02230 (3.1.B.3)

AWD RESPONSE This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.

AWD REFERENCE Not applicable

S99	Since the Contractor has the option of locating his own borrow source, the appropriateness of these compaction and moisture requirements is uncertain until permeability testing has been performed. ERM 02230 (3.2.A.3)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S100	If the design specifications are unattainable, the clay layer may not satisfy RCRA requirements. In order for the clay cap to satisfy the RCRA requirement of hydraulic conductivity $\leq 1 \times 10^{-7}$ cm/sec, the density and compaction specifications must be achieved. What will be done prior to construction to show that the Contractor's proposed compaction techniques will result in the desired performance? Will the Contractor construct a test pad to determine the range of moisture content and compaction that can be achieved with the available equipment and if it satisfies the hydraulic conductivity requirement? ERM 02230 (3.2.A.4)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S101	How will compaction and testing of a 6-inch layer of sand be accomplished. Most U.S. EPA guidance documents on this topic indicate that it is inappropriate for a drainage layer above a geomembrane to be this thin. ERM 02230 (3.2.B.1, 2, 3)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable

S102	Why is the thickness of the sand drainage blanket specified different than that shown in Section B-B of Drawing No. 91111-2-12? ERM 02230 (3.2.B.5)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S103	Why is the moisture content not specified? ERM 02230 (3.10.A.3(a)5)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S104	This section refers to Specification 02235 for testing requirements. However, Specification 02235 refers to Specification 02205 for this same information. Is this correct? ERM 02230 (3.10.A.4(b))
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S105	The testing frequency (one per lift per 2,500 ft ²) does not match the frequency given in Specification 01400, Paragraph 1.3.D.5(b) (one per 2,500 yd ² per lift). What is the correct frequency? ERM 02230 (3.10.B.2, 3.10.B.3)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable

S106	Compaction and testing of a 6-inch layer of sand is inappropriate for a drainage layer above a geomembrane. How will be geomembrane be protected during construction? ERM 02230 (3.10.B.2(b))
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S107	The thickness of the sand drainage blanket specified does not agree with that shown in Section B-B of Drawing No. 91111-2-12. ERM 02230 (3.10.E.2(b)3)
AWD RESPONSE	Section 02230 of the ERM specifications is titled "RCRA Cap." The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S108	This section refers to Specification 02235 for testing requirements. However, Specification 02235 refers to Specification 02205 for this same information. Is this correct? ERM 02230 (3.10.B.3(b))
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S109	The specific gravity number listed is incorrect. ERM 02232 (2.1.B.1)
AWD RESPONSE	This comment has been addressed.
AWD REFERENCE	AWD SPMR Technical Specifications; Section 02091, Part 2.01.B

S110	The following standards are mentioned but not referenced in Paragraph 1.3: FTMS 101B/2031, ASTM 1204, ASTM 413. Are they needed? ERM 02232 (2.1.D, 2.1.H)
AWD RESPONSE	This comment has been addressed.
AWD REFERENCE	AWD SPMR Technical Specifications; Section 02091, Part 1.03
S111	Does "subgrade" refer to the clay layer? What about subgrade damage because of erosion? ERM 02232 (3.1.B)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S112	Is the actual seaming process already known? A minimum 5-inch overlap may be too wide for some fusion welding equipment. ERM 02232 (3.1.N.1)
AWD RESPONSE	The Contractor will have to find fusion welding equipment capable of a 5-inch overlap.
AWD REFERENCE	AWD SPMR Technical Specifications; Section 02091, Part 3.01.L
S113	Where is the seeded grass area? ERM 02235 (3.6)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S114	The Specification title listed does not correspond to the title listed in the Specification. Why? ERM 02260 (1.3.D)

AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S115	<p>The areas where erosion control fabric and riprap are to be placed should be shown on the drawings. A detail of the riprap would also be helpful. Is the riprap to be placed over the erosion control fabric? Both specify placement on ditch slopes. If so, how will the fabric be protected from damage by the riprap?</p> <p>ERM 02722 (3.1.A, 3.1.B)</p>
AWD RESPONSE	Silt fence fabric and riprap locations and details are shown on the drawings.
AWD REFERENCE	AWD SPMR Contract Drawings
S116	<p>Where is the 25-inch x 16-inch arch culvert to be located? How much riprap (areal extent) should be placed there?</p> <p>ERM 02722 (3.2.A)</p>
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S117	<p>Where are the lines and grades for these details shown on the Drawings? Does this refer to the final lines and grades? If so, what thickness of bedding material and riprap is appropriate?</p> <p>ERM 02722 (3.2.C, 3.2.D)</p>
AWD RESPONSE	Riprap details are shown on the drawings.
AWD REFERENCE	AWD SPMR Contract Drawings
S118	<p>Was something emitted after the "and" at the end of this statement?</p> <p>ERM 02831 (3.1.N)</p>

AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S119	What is the relationship between these two sections and Specification 02235? There are inconsistencies between the two Specifications? ERM 02936 (3.2, 3.3)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S120	What "edging" does this paragraph refer to? ERM 02936 (3.3.E)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S121	Is "organic fiber" correct for string composition here? ERM 02936 (2.4.F)
AWD RESPONSE	Yes
AWD REFERENCE	AWD SPMR Technical Specifications, Section 02710, Part 2.04.E
S122	Removal of contaminated subsoil is indicated here. How will contamination of subsoil be determined by the Contractor? ERM 02936 (3.2.B)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable

S123	This material is not used in the plans or Specifications. ERM 03200 (2.1.B)
AWD RESPONSE	Concrete reinforcement is needed in the equipment decontamination pad.
AWD REFERENCE	AWD SPMR Technical Specifications; Section 02090 - Equipment Decontamination Pad; AWD SPMR Contract Drawings
S124	Specifications for concrete cover maintenance were not included after this statement as implied. ERM 03200 (3.1.C)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable
S125	This paragraph calls for finishing exposed concrete surfaces using steel trowels while the plans call for rough finishes. Which is correct? ERM 03300 (3.4.A)
AWD RESPONSE	Concrete finishes shall be in accordance with AWD SPMR Technical Specifications Section 03350 - Concrete Finishes.
AWD REFERENCE	AWD SPMR Technical Specifications; Section 03350 - Concrete Finishes
S126	Delete wording in parenthesis (i.e., (57 or less 76 cu m)"...). ERM 03300 (3.7.B)
AWD RESPONSE	This terminology is not a part of the AWD SPMR Technical Specifications. Related issues will be addressed in the Phase II Contract Documents.
AWD REFERENCE	Not applicable

S127

The following is a non-exhaustive list of general questions noted.
ERM 13000 (All)

- Why is no information provided on how to backfill the trenches or install the PVC piping?
- Why is a discussion of the material specifications and installation of the compacted native soil at the end of the injection/ extraction trenches not presented?
- Why is a specification not provided for the grout required for backfill of the extraction and injection piping?

AWD RESPONSE

Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE

Not applicable

S128

No details are given concerning the water management system in either the plans or the Specifications. How will the water be extracted, handled, and disposed of? Will U.S. EPA and IDEM receive the documents discussed in this paragraph?
ERM 13000 (1.4.B)

AWD RESPONSE

Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE

Not applicable

S129

Change "depth of remediation" to "depth of trenches" per Exhibit A.
ERM 13000 (1.4.C)

AWD RESPONSE

Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE

Not applicable

S130	This paragraph calls for the SVE system to "operate reliability and effectively". How will this be determined? What will be the anticipated amount of system caline time, allowable downtime, and penalty for non-conformances? ERM 13000 (1.4.G)
AWD RESPONSE	Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S131	Quantitatively define what is meant by "reliable operation" (see comment for Paragraph 1.4.G). Also, what data does the Contractor have to determine the pump capacity needed to provide the one air volume change per soil pore volume per day specified? ERM 13000 (1.4.H)
AWD RESPONSE	Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S132	Who provides the water storage tank truck? Is this the same as the decontamination water storage tank trucks discussed in Specification 01010, Paragraph 1.3.D.4? ERM 13000 (1.4.I)
AWD RESPONSE	Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S133	Is the 1,800-pound term referring to the carbon only? ERM 13000 (1.4.J)

AWD RESPONSE	Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S134	U.S. EPA and IDEM must see any proposed "enhancements" before they are implemented. ERM 13000 (1.4.N)
AWD RESPONSE	Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S135	How are restart spike samples collected? Is the gas from one trench, multiple trenches, or all of the trenches collected? ERM 13000 (1.5.B.1(a))
AWD RESPONSE	Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable
S136	How will soil samples be collected through the RCRA cap while maintaining the integrity of the cap? How will the cap be repaired? ERM 13000 (1.5.B.1.(c))
AWD RESPONSE	Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.
AWD REFERENCE	Not applicable

S137 What specific details are expected from the Contractor in the preliminary design and final design documents to be submitted for review? For example, will preliminary design documents for the SVE system include equipment sizing calculations, equipment and piping layout drawings, process flow and piping and instrumentation diagrams, etc.? Will these documents be submitted to U.S. EPA and IDEM? Is the last sentence support to read "an approved final design"?
ERM 13000 (1.6.A)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S138 What does the term "in accordance with the project" mean?
ERM 13000 (1.6.C)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S139 It is unclear what these warranty items are asking for. Is the Contractor required to install, operate, and maintain the system until the cleanup criteria are met regardless of the actual time taken? What criteria are referred to here - soil? groundwater? surface water?
ERM 13000 (1.7)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S140 The last sentence should be clarified or expanded to include unit costs for trenching as well as piping.
ERM 13000 (3.2.C)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S141 Where is the Specification for "washed 'float' stone"? Is it the same as the gravel for the edge drainage layer specified in Specification 02230, Paragraph 2.1.D?
ERM 13000 (3.2.D)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S142 Compaction of contaminated soil from excavations which is spread under the RCRA cap should be only to extent necessary to prevent damage to the cap by settling, etc. Compaction of this contaminated soil may impede vapor movement through these soils and delay or prevent extraction of contaminants and attainment of cleanup levels.
ERM 13000 (3.2.E)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S143 Where is the location of the sump well on the drawings?
ERM 13000 (3.2.F)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S144 Who is responsible for analyzing the water samples collected?
ERM 13000 (3.4.C)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S145 Who owns the removed equipment, piping, and building? What does "remove... from the site" means? Who pays for the disposal costs of these items?
ERM 13000 (3.5.A)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S146 Footnote 1 should refer to "Footnotes 5 and 6 of Table 2" and Footnote 2 should refer to acceptable soil concentrations in "Table 2".
ERM 13000 (Table 1)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

S147 At the top of this page there is an indication that Table 2 is "(continued)". Has a page of Table 2 been omitted here?
ERM 13000 (Table 2)

AWD RESPONSE Section 13000 of the ERM Specifications is titled "Soil Vapor Extraction System." The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

**U.S. EPA COMMENTS AND AWD RESPONSES
DRAWINGS**

D1	"The Site" appears to be located incorrectly on the map. ERM DRAWING (Cover)
AWD RESPONSE	The site is located correctly.
AWD REFERENCE	AWD SPMR Contract Drawing Title Sheet
D2	Is the sump to be removed the sump well or the 20 ft x 20 ft sump? Where is the other sump? ERM DRAWING (91111-2-03)
AWD RESPONSE	No sumps are to be removed as part of the SPMR work. Sumps will be addressed, if and as necessary, in Phase II.
AWD REFERENCE	Not applicable
D3	In the legend, what is a "work point"? Is this word defined in the Specifications? The new fence appears to extend into the roadway leading to Northside Sanitary Landfill. Will the location of this fence present any interference for implementation of the Superfund remedy for Northside? ERM DRAWING (91111-2-04)
AWD RESPONSE	The new site security fence will not impact NSL activities.
AWD REFERENCE	AWD SPMR Contract Drawing C-2
D4	Does the exclusion zone extend to the new fence at the north and south boundaries? In the legend, the third symbol is called "monitoring well". It should be "existing monitoring well". ERM DRAWING (91111-2-05)
AWD RESPONSE	The exclusion zone fence extends to the site security fence at the north and south boundaries.
AWD REFERENCE	AWD SPMR Contract Drawing C-3

D5 Show typical trench spacing on drawings. What are the two dark solid lines extending east out of the soil vapor extraction unit, and turning to the north and south, ending at trenches 20 and 26, respectively? What are the two dark dashed lines extending east-west near trench 21?
ERM DRAWING (91111-2-07)

AWD RESPONSE The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

D6 Show the location of the new fence on these cross-sections.
ERM DRAWING (91111-2-08)

AWD RESPONSE Details of the site security fence are shown.

AWD REFERENCE AWD SPMR Contract Drawing C-7

D7 On both Sections C-C' and D-D', the cap stops as much as 10 feet above the existing grade. How are these keyed into each other? On Section D-D', why is the cap in excess of 15 feet thick in some places?
ERM DRAWING (91111-2-09)

AWD RESPONSE The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

D8 On Section E-E', the cap ends suddenly in the middle of Unnamed Ditch on the eastern side, and ends 2 feet above existing grade on the western end. On Section F-F', the cap ends 2 feet above the existing grade. What really happens here? Also, won't the depression between the Remedial Site Boundaries (typical) allow water to pond on top of the cap?
ERM DRAWING (91111-2-10)

AWD RESPONSE The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE Not applicable

D9

In both Sections G-G' and H-H', the cap appears to be in excess of 6 feet thick. What material will be used to bring the cap width up to 6 feet? Also, both cross-sections show the relocation of Unnamed Ditch. How will this impact the implementability of the Northside Sanitary Landfill Superfund remedy?

ERM DRAWING (91111-2-11)

AWD RESPONSE

The cap is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE

Not applicable

D10

- Section E1-E1 does not show the width of the washed float stone. As it is shown, the drawing implies that all of the trenches are inter-tied by the washed float stone. The Consent Decree specifies that the trenches be 12 inches x 15 inches wide. What measures will be taken to prevent short circuiting of air flow?
- How will water that collects in the sand cover be removed from the cap? There are no drains shown.
- The monitoring well detail does not provide enough information for construction of the different types of wells required. Also, many of the materials shown are not specified.
- Sections C-C and D-D do not shown the injection and extraction piping. What is planned there?
- Is 1 foot of topsoil adequate for growth of roots without damage to the underlying layers?
- In Section E-E, the depth to the trench bottom is not fixed at 9 feet as indicated because of the bottom slope.
- In Section B-B, there is mention of a "french drain area". What is this?

ERM DRAWING (91111-2-12)

AWD RESPONSE

The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE

Not applicable

D11

Why are two trench detail alternatives (#1 and #2) presented? They are not referenced in the Specifications. They appear to have cover details shown that do not apply to this project. Why?

ERM DRAWING (91111-2-13)

AWD RESPONSE

The Soil Vapor Extraction System is not included with the SPMR phase of the work. This comment will be addressed during the Phase II work.

AWD REFERENCE

Not applicable

**U.S. EPA COMMENTS AND RESPONSES
HEALTH AND SAFETY PLAN**

H1	What is the expected duration of this project? This must be included in the HSP. ERM Reference - none listed
AWD RESPONSE	The SPMR portion of the project is expected to last approximately 4 months.
AWD REFERENCE	AWD SPMR HSP, Section 1.1
H2	The Consent Decree is not an "Administrative Order by Consent". ERM HSP (1-1) (1)
AWD RESPONSE	Any reference to the Consent Decree has been deleted from the AWD SPMR HSP.
AWD REFERENCE	None
H3	Change the word "lodged" in the third line to "entered". The Consent Decree was "lodged" on March 21, 1991 and was "entered" on September 10, 1991. Mention the ROD Amendment of June 7, 1991. At the bottom of the page, there is a discussion of Contractor-prepared HSP(s). It is not indicated in the HSP whether these will be submitted to U.S. EPA and IDEM; however, the QAPP, page 1-3 says that "the remediation contractor(s) will prepare and submit for U.S. EPA's and IDEM's approval, one or more QAPPs and HSPs for construction and operation activities...". ERM HSP (1-2) (1)
AWD RESPONSE	All references to the Consent Decree have been deleted from the AWD SPMR HSP. There also is no reference in the HSP regarding submittal of the Contractor HSP to U.S. EPA or IDEM.
AWD REFERENCE	None

H4 Who are the "Project Safety Officer" and the "Onsite Project Safety Officer" relative to the "Health and Safety Officer" referred to in Section 01560 of the Specifications? Also, U.S. EPA does not "approve" HSPs. Modifications to the HSP may be submitted to U.S. EPA for review and comment.
ERM HSP (2-1)

AWD RESPONSE AWD defines personnel roles and responsibilities in the HSP. The Health and Safety Officer is the individual responsible for the development and implementation of the Health and Safety Plan. The Site Safety Officer is the person assigned to the project to carry out requirements of the HSP in the field.

AWD REFERENCE AWD SPMR HSP, Section 2.0

H5 Chloroform, methylene chloride, tetrachloroethylene, and trichloroethylene are all suspected carcinogens and should be so noted in the HSP. Also, to comply with the hazard analysis, the signs and symptoms of exposure to the chemicals at the site must be included in the HSP. MSDSs are excellent for this purpose.
ERM Reference - none listed

AWD RESPONSE Chemicals of concern at the ECC Site are detailed and summarized.

AWD REFERENCE AWD SPMR HSP, Section 5.0 and Appendix A

H6 Will any physiological monitoring be performed to determine heat stress? We recommend heart rate, body weight, and core temperature be monitored when conditions warrant.
ERM Reference - none listed

AWD RESPONSE Heat and cold stress monitoring is addressed.

AWD REFERENCE AWD SPMR HSP, Sections 5.2.2 and 5.2.3

H7 Fatigue can be a contributing factor at Superfund Sites. It should be included in the hazard analysis section. Also, what will the expected workday hours be?
ERM Reference - none listed

AWD RESPONSE	A hazard analysis summary is required to be completed in the Contractor Health and Safety Plan. To date, the workday hours have not been defined. At such time, the determination of work hours will be amended to the CHSP.
AWD REFERENCE	None
H8	Table 3-2 is referred to in this section yet it is not included in the document. ERM HSP (3-1) (3.1)
AWD RESPONSE	This table is deleted from the AWD SPMR HSP.
AWD REFERENCE	None
H9	Would upgrade to Level B protection be considered for collection of groundwater samples? If so, a statement about the possible upgrade to Level B should be included. ERM HSP (3-2) (3.1)
AWD RESPONSE	No groundwater sampling is expected to be conducted during the Site Preparation and Material Removal phase of the project. Levels of protection regarding groundwater samples will be addressed in the AWD Remedial Action Health and Safety Plan.
AWD REFERENCE	None
H10	Under slips, trips, falls - the protective measure should be revised to read, "Personnel will be trained to follow proper techniques when working to minimize physical hazards". Accidents also happen to workers who are not in Levels B and C. ERM HSP (3-6)
AWD RESPONSE	Slip, trip, and fall hazards are addressed accordingly in the AWD SPMR HSP.
AWD REFERENCE	AWD SPMR HSP, Section 5.2.4
H11	Under noise - monitoring for noise should be conducted and, when necessary, workers should be required to wear ear protection. ERM HSP (3-6)

AWD RESPONSE	Noise evaluation is addressed in the AWD SPMR HSP.
AWD REFERENCE	AWD SPMR HSP, Section 5.2.8
H12	<p>The HSP states ear protection will be made available. But without an Action Level to require their use, workers tend not to use them. OSHA 29 CFR 1910.95 requires a hearing conservation program for any noise in the workplace that equals or exceeds 85 dBA - 8 hour TWA. Page 4-2 refers to heavy equipment at the site. Heavy equipment is often associated with excessive noise. How will it be determined if workers should wear hearing protection?</p> <p>ERM Reference - none listed</p>
AWD RESPONSE	Noise evaluation is discussed in the AWD SPMR HSP.
AWD REFERENCE	AWD SPMR HSP, Section 5.2.8
H13	<p>If heavy equipment will be used at the site, it must be identified along with a hazard analysis of its usage.</p> <p>ERM Reference - none listed</p>
AWD RESPONSE	A hazard analysis will be developed by the Contractor and included in the Contractor Health and Safety Plan. It will include the use of heavy equipment.
AWD REFERENCE	None
H14	<p>What other equipment will be used at the site?</p> <p>ERM Reference - none listed</p>
AWD RESPONSE	The Contractor will identify what types of heavy equipment that is planned for being used onsite in the Contractor Health and Safety Plan.
AWD REFERENCE	None listed
H15	Under Environmental Monitoring - Provisions for monitoring with combustible gas and oxygen meters in addition to organic vapors should be made, especially if water sampling activities correspond with intrusive operations. Proximity of the Northside Landfill and remedial activities on that site may create conditions that could affect environmental conditions on the Enviro-Chem Site. Environmental monitoring and

coordination of activities with safety personnel associated with the Northside Landfill Site may be necessary.
ERM HSP (6-1)

AWD RESPONSE

Real-time air monitoring is discussed in detail in the AWD SPMR HSP.

AWD REFERENCE

AWD SPMR HSP, Section 8.3

H16

Site topography, layout, and weather conditions must be included in the Emergency Response Plan. A detailed site map showing site zones should be included.
ERM Reference - none listed

AWD RESPONSE

Site layout is shown in the AWD SPMR HSP. Weather Contingency Plans are also discussed in the AWD SPMR HSP.

AWD REFERENCE

Site layout can be found on Page 6-2, and conditions regarding weather can be found in Section 12.0; both in the AWD SPMR HSP.

H17

The Respiratory Protection Program in the HSP does not meet the minimum requirements in 29 CFR 1910.134.
ERM Reference: none listed

AWD RESPONSE

The Respiratory Protection Program found in the AWD SPMR HSP meets 29 CFR 1910.134 and AWD SPMR HSP, Appendix C.

AWD REFERENCE

AWD SPMR HSP, Appendix C

H18

Tyvek coveralls are prescribed for protection during intrusive activities such as subsurface water sampling. Tyvek offers little protection for splash type hazards; instead, a coated Tyvek such as Saranex should be used.
ERM HSP (8-3)

AWD RESPONSE

Chemical protective clothing requirements are summarized in Table 7-1. Polyethylene coated Tyvek is specified to be used during this project. It does offer better protection against splash hazards beyond regular type Tyvek.

AWD REFERENCE

AWD SPMR HSP, Table 7-1

H19	Table A-3 and Figure A-3 - The splash suit removal (see Level C and Level B protection and decontamination procedures) is not included in the decontamination procedure outlined for Level A here. ERM HSP (App A)
AWD RESPONSE	Level A decontamination procedures have not been included in the HSP because there is no anticipation for the use of Level A. If circumstances develop that Level A protection is required, all applicable sections of the HSP that address such an issue would be amended accordingly.
AWD REFERENCE	None

—

AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 2.2.
F5	The first paragraph refers to "a minimum of 1 foot of compacted native soil". Exhibit A says "highly impermeable native soil". ERM FSP (2-3) (2.2)
AWD RESPONSE	Comment accepted and addressed by ERM. Suggested language has been incorporated into the text.
AWD REFERENCE	Remedial Action QAPP, Volume II, Field Sampling Plan, Section 2.3.
F6	Eliminate all references to Figure 4-1, as well as Figure 4-1 itself. These sample locations will be selected by U.S. EPA and IDEM, based in part on hot spots identified during the operation of the soil vapor system. However, once these 20 samples are taken, how will the cap repair be accomplished? ERM FSP (4-2) (4.2)
AWD RESPONSE	Comment accepted and addressed by ERM. The soil sampling locations have been removed from Figure 4-1 and reference to Figure 4-1 with respect to the soil samples has been removed from the text. The text has been edited to state that the sampling locations will be chosen by the U.S. EPA and IDEM, and AWD has provided a reference to Section 6.2 that has been developed by AWD for the cap repair procedures.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Sections 4.2 and 6.2.
F7	Are the number of samples listed on a per year basis or are they projected project totals? If they are project totals, the number of onsite subsurface wells is incorrect (5 are needed, counting the initial sampling event). ERM FSP (Table 4-2)
AWD RESPONSE	Table 4-2 has been revised by AWD to indicate the projected number of all samples from each of the target media, including background sampling, the initial sampling event (pre-remediation), quarterly sampling for 1 year (during SVE operation), and semi-annual post-remediation sampling for 7 years. Table 4-5 has been developed by AWD to summarize and clarify the projected number of subsurface water samples.

AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 2.2.
F5	The first paragraph refers to "a minimum of 1 foot of compacted native soil". Exhibit A says "highly impermeable native soil". ERM FSP (2-3) (2.2)
AWD RESPONSE	Comment accepted and addressed by ERM. Suggested language has been incorporated into the text.
AWD REFERENCE	Remedial Action QAPP, Volume II, Field Sampling Plan, Section 2.3.
F6	Eliminate all references to Figure 4-1, as well as Figure 4-1 itself. These sample locations will be selected by U.S. EPA and IDEM, based in part on hot spots identified during the operation of the soil vapor system. However, once these 20 samples are taken, how will the cap repair be accomplished? ERM FSP (4-2) (4.2)
AWD RESPONSE	Comment accepted and addressed by ERM. The soil sampling locations have been removed from Figure 4-1 and reference to Figure 4-1 with respect to the soil samples has been removed from the text. The text has been edited to state that the sampling locations will be chosen by the U.S. EPA and IDEM, and AWD has provided a reference to Section 6.2 that has been developed by AWD for the cap repair procedures.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Sections 4.2 and 6.2.
F7	Are the number of samples listed on a per year basis or are they projected project totals? If they are project totals, the number of onsite subsurface wells is incorrect (5 are needed, counting the initial sampling event). ERM FSP (Table 4-2)
AWD RESPONSE	Table 4-2 has been revised by AWD to indicate the projected number of all samples from each of the target media, including background sampling, the initial sampling event (pre-remediation), quarterly sampling for 1 year (during SVE operation), and semi-annual post-remediation sampling for 7 years. Table 4-5 has been developed by AWD to summarize and clarify the projected number of subsurface water samples.

AWD REFERENCE

AWD RA QAPP, Volume II, Field Sampling Plan, Tables 4-2 and 4-5.

F8

The FSP proposes a procedure for determining "Applicable Subsurface and Surface Water Background Concentrations". Related to background samples, Exhibit A states "The exact procedure, location of samples, and schedule for collecting and analyzing the samples will be approved by U.S. EPA, after consultation with the State, prior to its implementation". We are in the process of evaluating the proposed procedure for determining background concentrations, and will have comments as soon as possible. In the meantime, we reserve the right to change the number of new wells shown in the first paragraph.

ERM FSP (4-3) (4.3)

AWD RESPONSE

One additional background monitoring well cluster and one additional background surface water sampling point have been added to those locations proposed in the Consent Decree. These locations are proposed to better address the upgradient groundwater and the surface water discharge from the north ditch, respectively. AWD realizes that U.S. EPA reserves the right to require additional monitoring points and also realizes that the locations of the monitoring points will not be finalized until the completion of the remedial design. Determination of background values is stated to be in accordance with those procedures in Footnote 2 of Table 3-1 of Exhibit A.

AWD REFERENCE

AWD RA QAPP, Volume II, Field Sampling Plan, Sections 4.3 and 4.4 and Figure 4-1.

F9

Why was the piezometer moved approximately 200 feet south of the location identified in Exhibit A of the Consent Decree? Also, why were the sand and gravel well and the till well located on the western side of ECC moved to the southeast from the location shown in Exhibit A?

ERM FSP (Figure 4-2)

AWD RESPONSE

The revised FSP presents the original well locations presented in Exhibit A that have been located as closely as possible to those locations while taking into account the revised support zone area, the remedial boundary, and associated structures such as roadways, fences, etc. The well locations in question have been moved back as requested (as closely as possible).

AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Figure 4-1.
F10	As discussed above, we are reserving comment on the procedure for determining background surface and subsurface water concentrations. ERM FSP (4-5, 4-6) (4.3, 4.4)
AWD RESPONSE	The proposed background samples have been revised to reflect the new proposed sampling locations. Otherwise, this text section remains the same as formerly presented by ERM.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Sections 4.3 and 4.4.
F11	Soil vapor samples shall be pulled through the charcoal or XAD tubes before going through the sampling pump to reduce the possibility of sample contamination. ERM FSP (6-2) (6.1)
AWD RESPONSE	Agreed to and addressed by ERM.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.1.
F12	MS/MSD and field replicate samples shall also be collected for the soil vapor analyses. ERM FSP (All) (6.1)
AWD RESPONSE	Agreed to and addressed by AWD. The text has been edited to call for MS/MSD and duplicate samples to be collected for soil vapor analyses.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.1 and Table 4-2.
F13A	For extracted vapor, please address the precautions to be taken to ensure no breakthrough occurs during each sampling event. ERM FSP (6.1)
AWD RESPONSE (F13A)	Agreed to and addressed by ERM.
AWD REFERENCE (F13A)	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.1.

F13B	The spent activated charcoal table and XAD-2 tube should be stored in a separate ziploc plastic bag.
AWD RESPONSE (F13B)	Agreed to and addressed by ERM.
AWD REFERENCE (F13B)	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.1.
F14	The individual soil vapor sample tubes shall be capped and then placed in capped test tubes. The test tubes shall then be stored in a new, clean paint can with charcoal loose in the bottom to protect the samples. ERM FSP (6.3) (6.1)
AWD RESPONSE	Agreed to and addressed by both ERM and AWD. The test was edited by AWD to provide the requested storage containers.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.1.
F15	Eliminate the reference to Figure 4-1. ERM FSP (6-4) (6.2)
AWD RESPONSE	Agreed to and eliminated by ERM. There is no reference to sampling locations for the Verification Soil Samples.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.2.
F16	Describe how the screen length will be determined in the offsite wells as was done for the onsite wells. ERM FSP (6-5) (6.3.1)
AWD RESPONSE	The rationale for the design of both the onsite and offsite wells has been edited by AWD to fully explain the proposed screen lengths, and anticipated depths of the various wells and their relationship to the proposed SVE system. The provided well construction diagrams outline the proposed wells' construction compared to the anticipated subsurface conditions and the intent of the compliance monitoring requirements. The revised FSP includes provisions for an exploratory test boring at each monitoring well location to determine the depth to the sand and gravel unit, and the thicknesses of the upper till unit and the sand and gravel unit.

AWD REFERENCE

AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.3.1 and Figures 6-1, 6-2, and 6-3.

F17

Will the wells be installed before or after the cap is placed? If they are to be installed after cap placement, how will the cuttings be handled? Also, how can the locations of the investigative monitoring wells be based on the subsurface water elevation contours shown in Figure 6-6, when the contours on this figure do not even extend north of the concrete cap?
ERM FSP (6-6) (6.3.1)

AWD RESPONSE

The compliance monitoring wells will be installed before placement of the cap. This will allow for slight modifications of location, simpler cuttings and fluid handling, and overall ease of construction as compared to interrupting the permanent cap and insuring that no contaminated drilling wastes fall onto the cap. The text presents the compliance monitoring well locations that were presented in Figure 2-7 of Exhibit A with the exception that an additional upgradient well cluster has been added and some of the well locations were altered slightly to be compatible with the Site Preparation provisions. Reference to existing groundwater contours is no longer presented as a rationale for the position of the wells.

AWD REFERENCE

AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.3.1 and Figures 4-1, 6-1, 6-2, and 6-3.

F18

The first paragraph states that a soil sample from the screened interval of each monitoring well will be analyzed for particle size distribution to determine hydraulic conductivity. This method is considered most reliable in homogeneous sediments. Its reliable application for determining hydraulic conductivities of the heterogeneous till and sand/gravel at the site is questionable.
ERM FSP (6-7) (6.3.1)

AWD RESPONSE

AWD has deleted the grain size analyses from the FSP. Additional hydraulic conductivity information, as derived from constant rate pumping tests out of the upper till unit, is to be collected during the Phase II Supplemental Investigation prior to completion of the final remedial action design. Estimation of hydraulic conductivity from grain size analysis will not be employed during the Phase II SI.

AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, deleted from Section 6.3.1 and Table 7-1.
F19	How will the depth to the sand and gravel aquifer be determined so that the till wells will be screened at the proper depth? ERM FSP (6-7) (6.3.1)
AWD RESPONSE	As explained in AWD Response F-16, an exploratory test boring will be advanced at each compliance monitoring well cluster location to determine the depth to the sand and gravel unit, and the thicknesses of the upper till unit and the sand and gravel unit so that the wells will be screened at the proper depths.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.3.1
F20	The third paragraph states "...the formation will be allowed to collapse around the screen..." during well installation. This method is acceptable during screen placement in the sand and gravel only. The till monitoring well screens should be sand packed. This will aid in well development, reduce turbidity during sampling, and may increase permeability by preserving possible secondary soil structures which may exist in the till. ERM FSP (6-7) (6.3.1)
AWD RESPONSE	Artificial sand pack will be emplaced within the annular space of all of the compliance monitoring wells. The reference to allowing natural formation caving has been deleted, and the text has been edited to indicate the placement of an artificial sand pack around the well screens.
AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.3.1 and Figures 6-1, 6-2, and 6-3
F21	Please specify that a new cotton cord will be used for each well measurement. ERM FSP (6-10) (6.3.2.2)
AWD RESPONSE	Accepted and addressed by ERM. The text has been edited to indicate that a new cotton cord will be used for each well measurement.

AWD REFERENCE

AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.3.2

F22

Table 6-1 is cited as describing decontamination of sampling equipment between sampling. This table was not included in the document.

ERM FSP (6-12) (6.3.2.4)

AWD RESPONSE

Accepted and addressed by ERM. Table 6-1, Decontamination Protocol for Sampling Equipment, has been included in the text.

AWD REFERENCE

AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.2 and Table 6-1

F23

Change the first bullet to address the following:

- Address for all parameters.
- Individual liter-size bottles should be used, instead of using one big bottle.

ERM FSP (6-13)

AWD RESPONSE

Accepted and addressed by ERM. The text has been edited to include all parameters in the first paragraph (five bullet items).

AWD REFERENCE

AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.3.2.4

F24

It is stated on Page 6-14 that no MS/MSD samples are required for organics because CLP SOW OLCO1.0 does not require the analysis of MS/MSD. This statement is inaccurate. It is true that CLP SOW OLCO1.1 does not require the analysis of MS/MSD because they are substituted with one laboratory control sample (LCS) and one performance evaluation (PE) sample. For PRP-lead projects, the Agency does not provide the PE sample. Therefore, MS/MSD samples are required for this project.

ERM FSP (6-14)

AWD RESPONSE

Agreed to and addressed by AWD. The text has been edited to call for MS/MSD samples for each sample medium.

AWD REFERENCE	AWD RA QAPP, Volume II, Field Sampling Plan, Section 6.3 and Table 4-2
F25A	The chromium VI analysis has a 24-hour holding time associated with it, and the samples are not preserved in nitric acid. Also, Appendix B.2 of the Quality Assurance Project Plan (EMS Heritage Laboratories, Inc. Hexavalent Chromium Standard Operating Procedure) indicates that the samples are to be unfiltered. Collection and preservation procedures should be compatible with the SOP used to analyze the samples. ERM FSP (Table 7-1)
AWD RESPONSE (F25A)	Agreed to and addressed by ERM in Appendix B Revision 2. Note that Appendix B has been greatly altered by AWD. The methods supplied by AWD in Appendix B, i.e., the 24-hour holding time and sample preservation methods suggested by the U.S. EPA, have been addressed in Table 7-1.
AWD REFERENCE (F25A)	AWD RA QAPP, Volumes II and III, Volume II Section 7.0 and Table 7-1; Volume III Appendix B
F25B	Also in Table 7-1, please make the corrections shown on the Appendix I to this document.
AWD RESPONSE (F25B)	Agreed to and addressed by ERM in Table 7-1.
AWD REFERENCE (F25B)	AWD RA QAPP, Volume II, Field Sampling Plan, Table 7-1
F25C	Footnote 1 to Table 7-1 should be revised to state that the technical holding times are from the date of sample collection.
AWD RESPONSE (F25C)	Agreed to and addressed by ERM in Table 7-1.
AWD REFERENCE (F25C)	AWD RA QAPP, Volume II, Field Sampling Plan, Table 7-1
F25D	For soil vapor, if both XAD-7 resin or activated carbon tubes are to be used for different parameters (e.g., 1,1-DCA vs. other volatile organics), they should be listed separately.
AWD RESPONSE (F25D)	Agreed to and addressed by ERM in Table 7-1.
AWD REFERENCE (F25D)	AWD RA QAPP, Volume II, Field Sampling Plan, Table 7-1

F25E

Table 3-1 of the QAPP says that soil vapor will be tested for phenol as well; yet phenol is not included on Table 7-1 of the FSP. Please specify what sorbent will be used for this purpose, and the preservation and holding time requirements.

AWD RESPONSE (F25E)

Addressed by ERM in Table 7-1.

AWD REFERENCE (F25E)

AWD RA QAPP, Volume II, Field Sampling Plan, Table 7-1

**U.S. EPA COMMENTS AND AWD RESPONSES
QUALITY ASSURANCE PROJECT PLAN**

- Q1** In the first paragraph, the Consent Decree is not an "Administrative Order by Consent". In this section, please describe soil sampling, grain size distribution, water level measurements, soil vapor sampling, and organic carbon content analysis as discussed in the Field Sampling Plan.
ERM QAPP (1-1) (1.1)
- AWD RESPONSE** Agreed to and addressed by ERM in Section 1.1 with the exception of grain size and TOC analysis which have been removed from the FSP.
- AWD REFERENCE** AWD RA QAPP, Section 1.1
- Q2** It states that "The remediation contractor(s) will prepare and submit for U.S. EPA's and IDEM's approval, one or more QAPPs and HSP's for the construction and operation activities..." This is not consistent with the specifications and the HSP.
ERM QAPP (1-3) (1.1)
- AWD RESPONSE** Agreed to and addressed by ERM on Page 1-3 of ERM's Revision 2. Note: This section has been extensively rewritten by AWD and the paragraph containing the above quote (Q2) is no longer in the QAPP.
- AWD REFERENCE** AWD RA QAPP, Section 1.0
- Q3** In the third paragraph, change "lodged" to "entered". Also, mention the ROD Amendment of June 7, 1991.
ERM QAPP (1-4) (1.2.2)
- AWD RESPONSE** Agreed to and addressed by ERM in Section 1.2.3.
- AWD REFERENCE** AWD RA QAPP, Section 1.2.3
- Q4** What does the sentence mean that ends on the top of Page 1-6? Also, at the bottom of Page 1-6, and throughout the document, please add "to the Consent Decree" after Exhibit A.
ERM QAPP (1-5, 6) (1.2.3)

AWD RESPONSE	The sentence in question has been rewritten by AWD in Section 1.2.2. "To the Consent Decree" has been added where necessary by ERM.
AWD REFERENCE	AWD RA QAPP, Section 1.2.2
Q5	<p>The number and frequency of field QA/QC samples is inadequate and does not consistently agree with statements in the text (e.g., Subsection 3.1 calls for MS/MSD for organic soil analyses, but no such analyses are indicated in Table 1-2). Field QA/QC samples shall be collected at a frequency of 1 per 10 samples, and at least one set of QA/QC samples should be collected for each set of samples submitted. This means that even if only a single sample is to be analyzed, a field duplicate, field blank and MS/MSD sample should be analyzed.</p> <p>ERM QAPP (Table 1-2)</p>
AWD RESPONSE	Table 1-2 has been corrected by ERM and AWD.
AWD REFERENCE	AWD RA QAPP, Table 1-2
Q6	<p>Why are Aroclor 1232 and Aroclor 1260 shown in these tables? The acceptable Subsurface Water Concentration of 0.0045 µg/L is for the sum of all PCBs present.</p> <p>ERM QAPP (Table 1-6, 1-7)</p>
AWD RESPONSE	Agreed to and addressed by ERM. Concentrations shown in these tables now reflect the sum of all PCBs. Note: These tables have been renumbered by AWD and are now Table 1-5 and Table 1-6
AWD REFERENCE	AWD RA QAPP, Tables 1-5 and 1-6
Q7	<p>For "Field Ambient Air", the intended use should also include determining that offsite migration of contaminants (as determined by appropriate regulations) does not occur during construction activities.</p> <p>ERM QAPP (Table 1-8)</p>
AWD RESPONSE	Agreed to and addressed by AWD in last block of table (now Table 1-7). The level of QC (Data Quality Objective) has been changed by AWD to Level IV.
AWD REFERENCE	AWD RA QAPP, Table 1-7

Q8 The Consent Decree provided 3 months for preparation of plans and specifications, not 4 months as indicated in this figure. Also, on the schedule, the operation of the SVE system appears to be somehow linked to the availability of the NSL pipeline. Explain the relevance of this. Also, at the bottom of the page under "Plans and Specifications", there are listed 5 items. The "Restart Spike Procedure" is missing from the December 10 submittal.
ERM QAPP (Figure 1-3)

AWD RESPONSE Agreed to and addressed by ERM in Figure 1-3.

AWD REFERENCE AWD RA QAPP, Figure 1-3

Q9 Please add the following to the "Project Organization and Responsibility" Section:
ERM QAPP (2.0)

Q9A • Identify the parties responsible for final data review and of Tentatively Identified Compounds (TICs).

Q9B • Include the Region V Central Regional Laboratory (CRL) in the project organization chart.

Q9C • Identify the responsibilities of all three laboratories.

AWD RESPONSE Agreed to and addressed by ERM and AWD. Note: This section has been extensively rewritten by AWD. Also, since it is not known which analytical laboratories will be selected, references to specific laboratories have been removed from this section by AWD.

AWD REFERENCE AWD RA QAPP, Section 1.1 and all of Section 2.0 - include changes in response to Q9A, and Q9B. References to specific laboratories have been removed from the QAPP by AWD.

Q10 In the Level of QC Effort Section, please address the following:
ERM QAPP (3-1 to 3-3) (3.1)

Q10A

- There are conflicting statements in this section. On Page 3-1, it states that MS/MSD samples will be designated/collected for organic soil analysis and 1,1-dichloroethane water analysis only, while on Page 3-2, it states that no extra volume of soil needs to be collected for the MS/MSD samples for VOCs or extractable organic analysis. Please correct the discrepancy.

AWD RESPONSE (Q10A) Agreed to and addressed by ERM in Section 3.1. Note: It is not necessary to collect extra volume for MS/MSD soil organics.

AWD REFERENCE (Q10A) AWD RA QAPP, Section 3.1

Q10B

- We agree that no duplicate samples will be collected for soil vapor analysis. However, we require that MS/MSD samples with blank tubes should be done for vapor analysis. Please address this.

AWD RESPONSE (Q10B) Agreed to and addressed by ERM in Section 3.1.

AWD REFERENCE (Q10B) AWD RA QAPP, Section 3.1

Q10C

- Other than soil vapor samples, field blank (for water samples only) and field duplicate samples should be collected, at a frequency of 10 or fewer investigative samples collected, for all parameters. Please revise the QAPP and FSP, and related tables (e.g., Table 1-2 of the QAPP and Table 4-2 of the FSP).

AWD RESPONSE (Q10C) Agreed to and addressed by ERM and AWD. Tables 1-2 of the QAPP and 4-2 of FSP have been corrected.

AWD REFERENCE (Q10C) AWD RA QAPP, Table 1-2

Q11 Detection limits for many of the analytes are higher than the RA cleanup standards listed in Table 3-1 of the Consent Decree. Alternate methods to obtain the required detection limits must be specified.
ERM QAPP (Table 3-1)

AWD RESPONSE	Agreed to and addressed by ERM. Detection limits in Table 3-1 have been changed to meet cleanup levels. Also, methods of resource laboratories which meet required detection limits have been included in Appendix A and Appendix C ((Volume III) of the QAPP.
AWD REFERENCE	AWD RA QAPP, Appendices A and C in Volume III
Q12	This subsection states that the calibration knob will be used to calibrate to the first and second pH buffer. If the knob is adjusted to calibrate to the second buffer, the calibration for the first buffer will be altered. The procedure must be revised. ERM QAPP (6-2) (6.1.1)
AWD RESPONSE	Not changed by ERM or AWD. This section requires no changes as the original ERM method is the correct procedure for pH meter calibration (Section 6.1.1).
AWD REFERENCE	AWD RA QAPP, Section 6.1.1
Q13	Deionized water should be used to rinse the electrode. ERM QAPP (6.1.1) (6-3)
AWD RESPONSE	Agreed to and addressed by ERM in Section 6.1.2.
AWD REFERENCE	AWD RA QAPP, Section 6.1.2
Q14	Deionized water should be used to rinse the electrode. Delete 2nd and 3rd bullets. The distilled water to be used for field blank preparation should be tested prior to leaving the laboratory and not during field instrument calibration onsite. ERM QAPP (6.1.2) (6-4)
AWD RESPONSE	Agreed to and addressed by ERM and AWD in Section 6.1.2.
AWD REFERENCE	AWD RA QAPP, Section 6.1.2
Q15	The calibration procedure for the personal sampling pump has been omitted from this section. Why? ERM QAPP (All) (6.0)
AWD RESPONSE	Addressed by AWD. A procedure for calibrating personal sampling pumps has been included in Appendix F (Volume III) of the QAPP.

AWD REFERENCE	AWD RA QAPP, Appendix F, Volume III
Q16A	Describe the method to be used to detect/quantify the low concentration contaminants in the presence of contaminants of high concentrations. ERM QAPP (7.0)
AWD RESPONSE (Q16A)	Described by CompuChem in Appendix A.8, Volume III of the QAPP.
AWD REFERENCE (Q16A)	AWD RA QAPP, Appendix A.8, Volume III
Q16B	Please note that CLP SOW OLM01.1 cannot achieve detection limits required for parameters listed in Table 1-6. SOP should be provided for that purpose. ERM QAPP (7.0)
AWD RESPONSE (Q16B)	Addressed by ERM and several resource laboratories in Appendix A.8 and Appendix C (Volume III). Note: Since it is not known whether the laboratories specified in the Appendices (Volume III) will be chosen to perform the analyses, language has been added to Section 1.0 of the QAPP stating that laboratories when selected must comply with U.S. EPA, IDEM and site-specific requirements.
AWD REFERENCE (Q16B)	AWD RA QAPP, Appendices A.8 and C
Q17	<p>A hard copy of all analytical data and supporting documentation shall be retained. Magnetic disks and tapes are insufficient. In addition, the following data packages are to be submitted to U.S. EPA and IDEM:</p> <ul style="list-style-type: none"> ● Data packages for all samples used to verify soil cleanup as specified in Section 4.2 of Exhibit A, including: <ul style="list-style-type: none"> - Soil vapor samples from restart spike tests - Onsite till well samples - Soil samples

- Data packages for all background subsurface and background surface water samples used to modify the site-specific acceptable concentrations listed in Table 3-1 of Exhibit A as allowed by Footnotes (2) and (4).
- Data packages for all samples collected for post soil cleanup compliance monitoring as prescribed in Section 4.3 of Exhibit A.

Data packages for all other samples collected should be retained in accordance with Section XV of the Consent Decree.

ERM QAPP (9-1) (9.0)

AWD RESPONSE

Agreed to and addressed by AWD in Section 9.3.

The above three bullets have been agreed to and addressed by ERM and AWD in Section 9.3 of the QAPP (Volume I).

AWD REFERENCE

AWD RA QAPP, Section 9.3

Q18

The raw data should include GC chromatograms and mass spectra.

ERM QAPP (9-5)

AWD RESPONSE

Agreed to and addressed by ERM in Section 9.3.

AWD REFERENCE

AWD RA QAPP, Section 9.3

Q19

The preventative maintenance of laboratory equipment was referenced to Appendices A.7, B, C, and D. However, the referenced appendices did not contain the information. Please provide the routine preventative maintenance, including schedule/frequency, for each laboratory. An example table is attached for your reference.

ERM QAPP (11.0)

AWD RESPONSE

Agreed to and addressed by ERM, AWD, and various laboratories. See last sentence of Section 11.2 of the QAPP and referenced Appendices (Volume III).

AWD REFERENCE

AWD RA QAPP, Section 11.2 and referenced appendices in Volume III

Q20	SOP for the analysis of 1,1-DCA by CompuChem Laboratories, Inc. Please address the following: ERM QAPP (App. A)
Q20A	<ul style="list-style-type: none"> • This SOP is for the analysis and report of 1,1-DCA only. Please clarify whether the calibration standard will include all compounds listed in Page 2 of the SOP or only 1,1-DCA. Note: Although only 1,1-DCA will be reported, the calibration mixture should include all compounds.
AWD RESPONSE (Q20A)	Required information supplied by CompuChem Laboratories on the 1st Page of Appendix A.2 (Volume III). U.S. EPA Method 8010 will be followed exactly when analyzing for 1,1-DCA.
AWD REFERENCE (Q20A)	AWD RA QAPP, Appendix A.2, Volume III
Q20B	<ul style="list-style-type: none"> • Please include the frequency of continuing calibration checks, including the concentration standard to be used for this purpose. Please revise Section 6.2 of the SOP to specify the frequency of performing continuing calibration checks.
AWD RESPONSE (Q20B)	Agreed to and addressed by CompuChem Laboratories on Page 10 of 14, Section 6.2 in Appendix A.2 (Volume III).
AWD REFERENCE (Q20B)	AWD RA QAPP, Appendix A.2, Volume III
Q20C	<ul style="list-style-type: none"> • Please include the concentration of the working matrix spike standard solution and the spike level to be used.
AWD RESPONSE (Q20C)	Spike levels supplied by CompuChem Laboratories on Page 12 of 14, Section 6.4 in Appendix A.2 (Volume III).
AWD REFERENCE (Q20C)	AWD RA QAPP, Appendix A.2, Volume III
Q20D	<ul style="list-style-type: none"> • The SOP should include the preparation of MS/MSD samples.
AWD RESPONSE (Q20D)	Agreed to and addressed by CompuChem Laboratories on Page 12 of 14, Section 6.4 in Appendix A.2 (Volume III).
AWD REFERENCE (Q20D)	AWD RA QAPP, Appendix A.2, Volume III

AWD REFERENCE

AWD RA QAPP, EMS Heritage SOP removed from Volume III

Q22

SOPs for selected organics on charcoal tubes by Lancaster Laboratories, Inc. Please address the following:
ERM QAPP (App. C)

Q22A

- Please specify the method detection limit and dynamic working linear range in appropriate units.

Q22B

- Please define 100/50 mg charcoal tube. Does it consist of two separate sections each containing 100 mg and 50 mg of charcoal respectively?

Q22C

- Please describe how the spike of surrogate compound is done. Is it spiked into the activated charcoal or into the solvent (CS₂)? Note: It is not appropriate to spike the surrogate into the solvent because it will result in a false positive recovery.

Q22D

- Please address the composition of the matrix spike standard solution and the concentration of each component, preparation of matrix samples (including the frequency).

Q22E

- On Page 8 (Quality Control), please address the following:

Q22E1

- (a) It is stated that two unopened tubes will be spiked with approximately 0.1 mg and 0.3 mg per tube respectively. We do not know what the rationale is to spike two tubes with different amounts of spike compounds. Please explain.

Q22E2

- (b) If two tubes are spiked with two different amounts of compounds, then please describe how the Relative Percent Difference (%RPD) between two spiked tubes is calculated.

Q22E3

- (c) Please identify which GC column will be the primary column, and which will be the secondary (or confirmatory) column.

Q22E4

- (d) What precautions will be used to prevent breakthrough?

Q22F	<ul style="list-style-type: none"> • A section should be added to address the data deliverables (e.g., what the data package will consist of).
AWD RESPONSE (Q22)	Lancaster Laboratories' responses to each of the U.S. EPA's comments can be found in Attachment 1 in Appendix C of Volume III and adjustments to the SOP have been included in the SOP for organics on charcoal tubes.
AWD REFERENCE (Q22)	AWD RA QAPP, Appendix C, Attachment 1
Q23	SOP for analysis of phenol on XAD-7 tube by Lancaster laboratories, Inc. Please address the following: ERM QAPP (App. C)
Q23A	<ul style="list-style-type: none"> • Please specify the method detection limit and dynamic linear range in appropriate units.
Q23B	<ul style="list-style-type: none"> • Please define 100 mg/50 mg XAD-7 tube. Does it consist of two separate sections, each containing 100 mg and 50 mg of XAD-7 respectively?
Q23C	<ul style="list-style-type: none"> • What precautions will be used to prevent breakthrough?
Q23D	<ul style="list-style-type: none"> • Please address the concentrations of the matrix spike standard solution to be used.
Q23E	<ul style="list-style-type: none"> • A section should be added to address the data deliverables (e.g., what the data package will consist of).
AWD RESPONSE (Q23)	Lancaster Laboratories' responses to each of the U.S. EPA's comments can be found in Attachment 1 in Appendix C of Volume III and adjustments to the SOP have been included in the SOP for phenol on XAD-7 tubes.
AWD REFERENCE (Q23)	AWD RA QAPP, Appendix C, Attachment 1
Q24	SOP for Particle Size Analysis. It is not clear whether this SOP is to be used to determine the particle size distribution or just particle size. Please address the following: ERM QAPP (App. E)

- Q24A**
- Please clarify whether the particle size distribution or particle size is of interest. Note: If particle size distribution is desired, then the particle size of interest should be specified, and the mesh of the screen used should be specified.
- Q24B**
- How will the analytical results be reported? Please add a section to address the reporting of analytical results. This will depend on whether particle size distribution or only on single particle size is to be determined.
- Q24C**
- The limit of detection is specified to be 0.0%. This is meaningless without stating the particle size. Please revise it accordingly. The same correction should be made for the range of measurement.
- AWD RESPONSE (Q24)**
- Grain size analysis for permeability has been removed from the FSP by AWD. Therefore, the SOP for grain size analysis has been removed from the Appendices (Volume III).
- AWD REFERENCE (Q24)**
- AWD RA QAPP - This SOP has been removed from Volume III